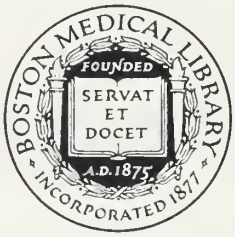
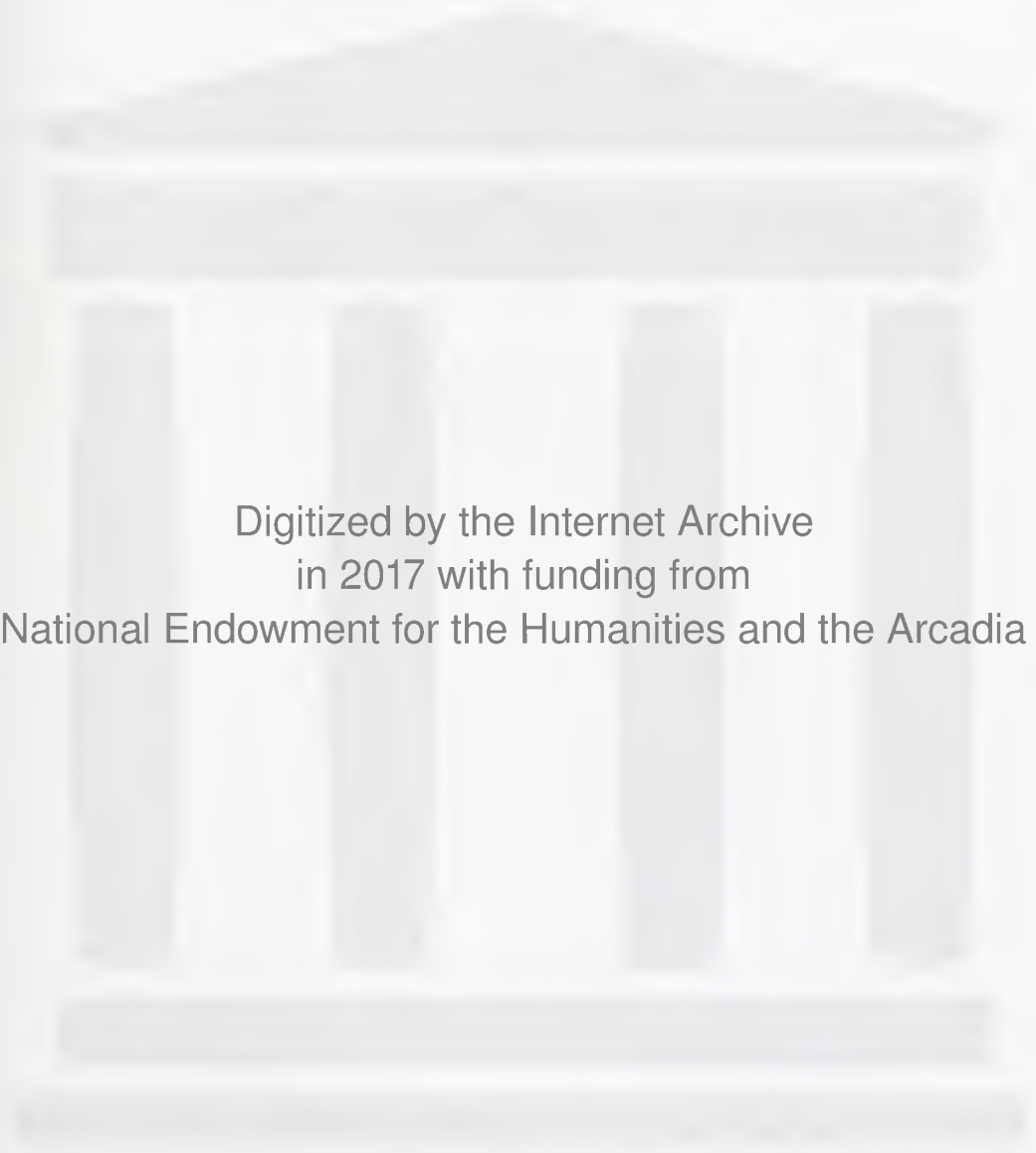
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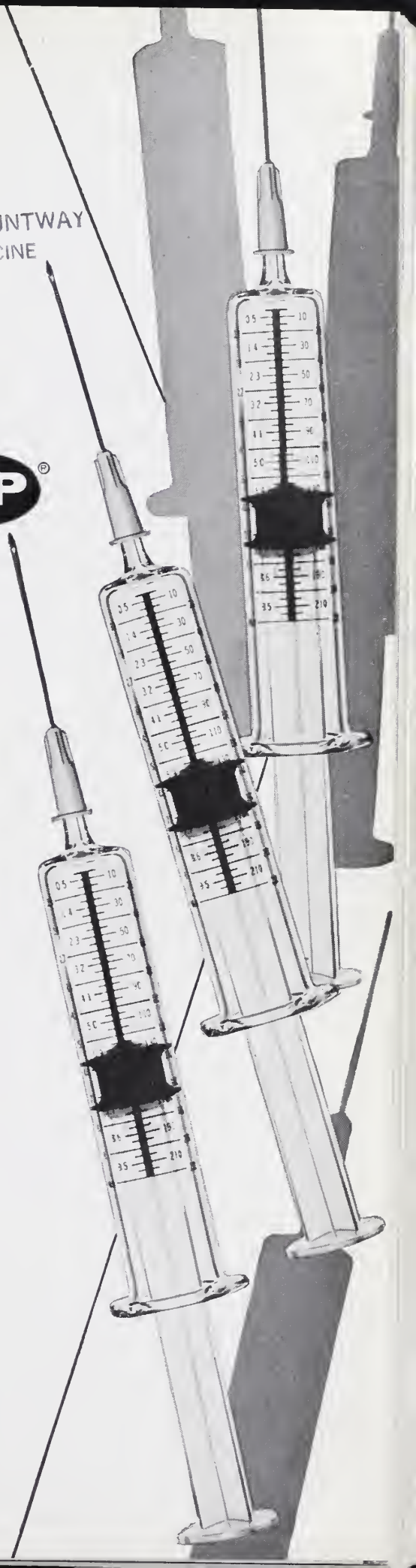
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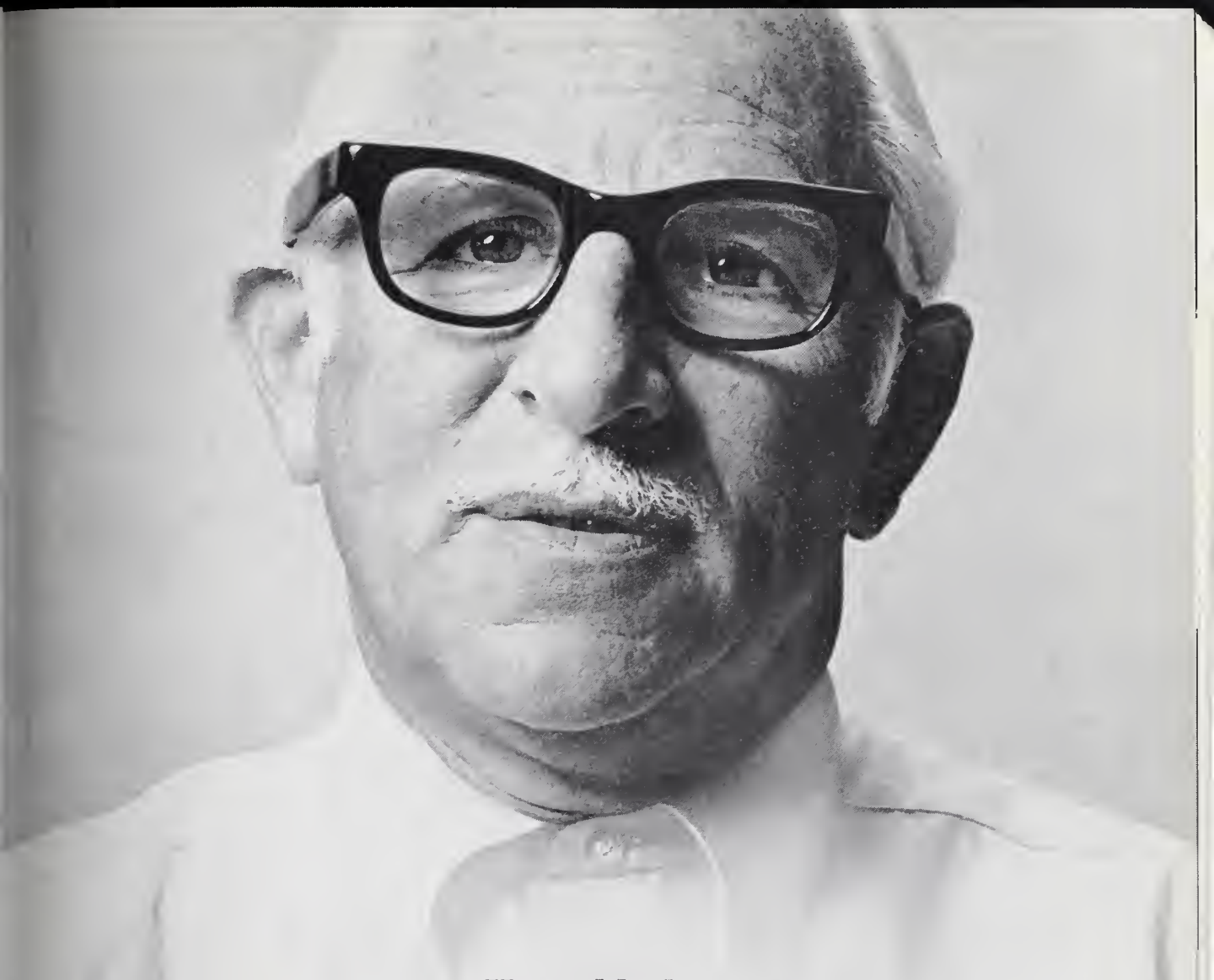
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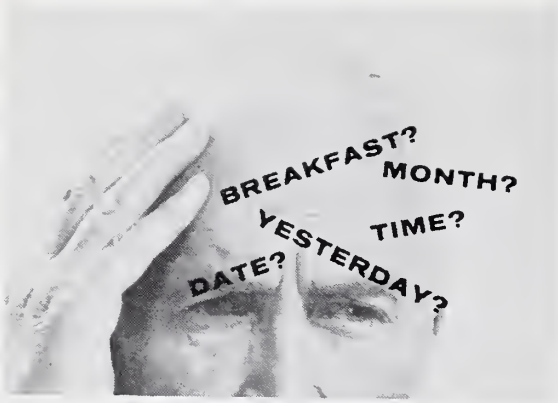
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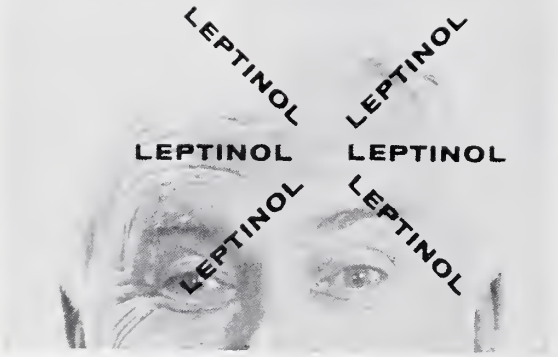
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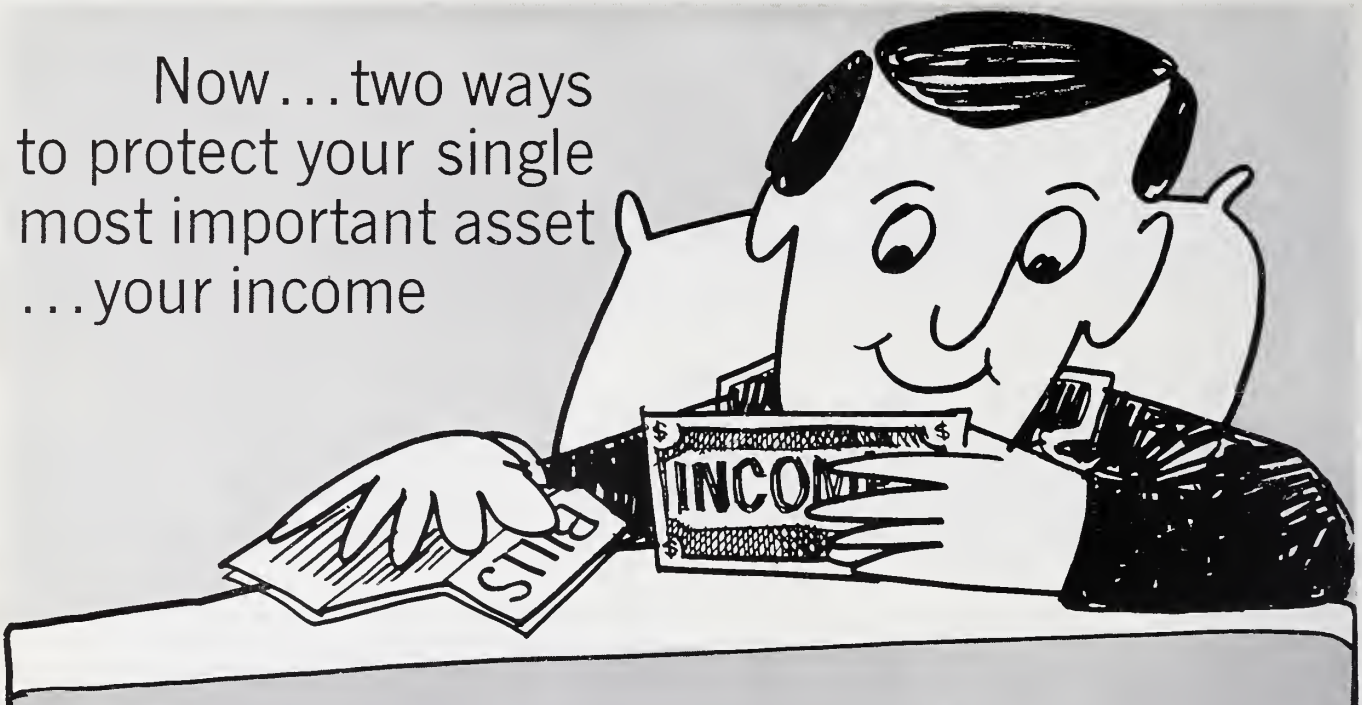
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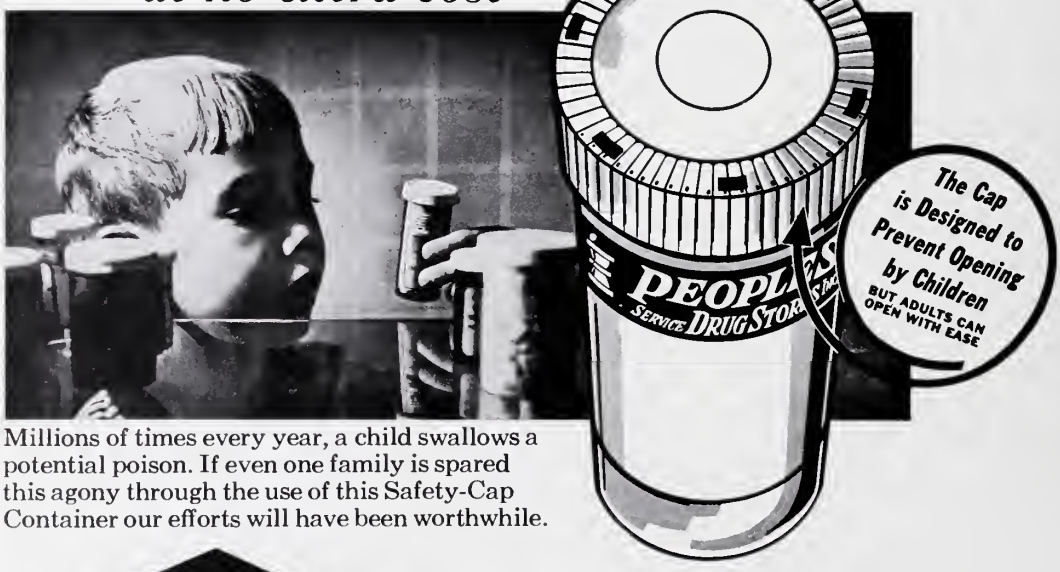
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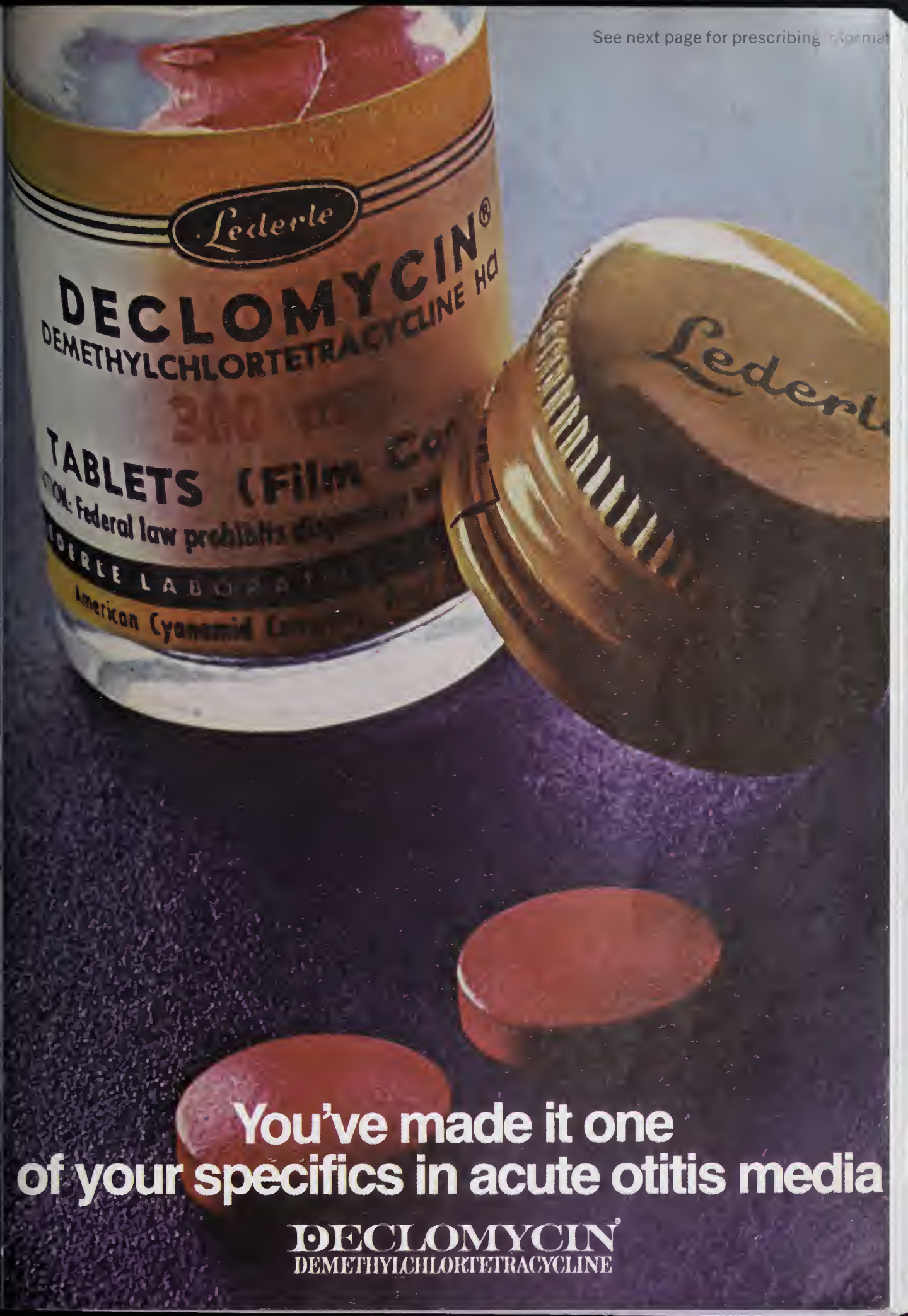
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Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose-related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

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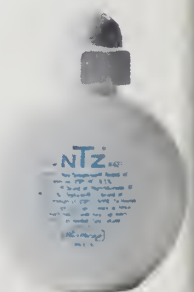
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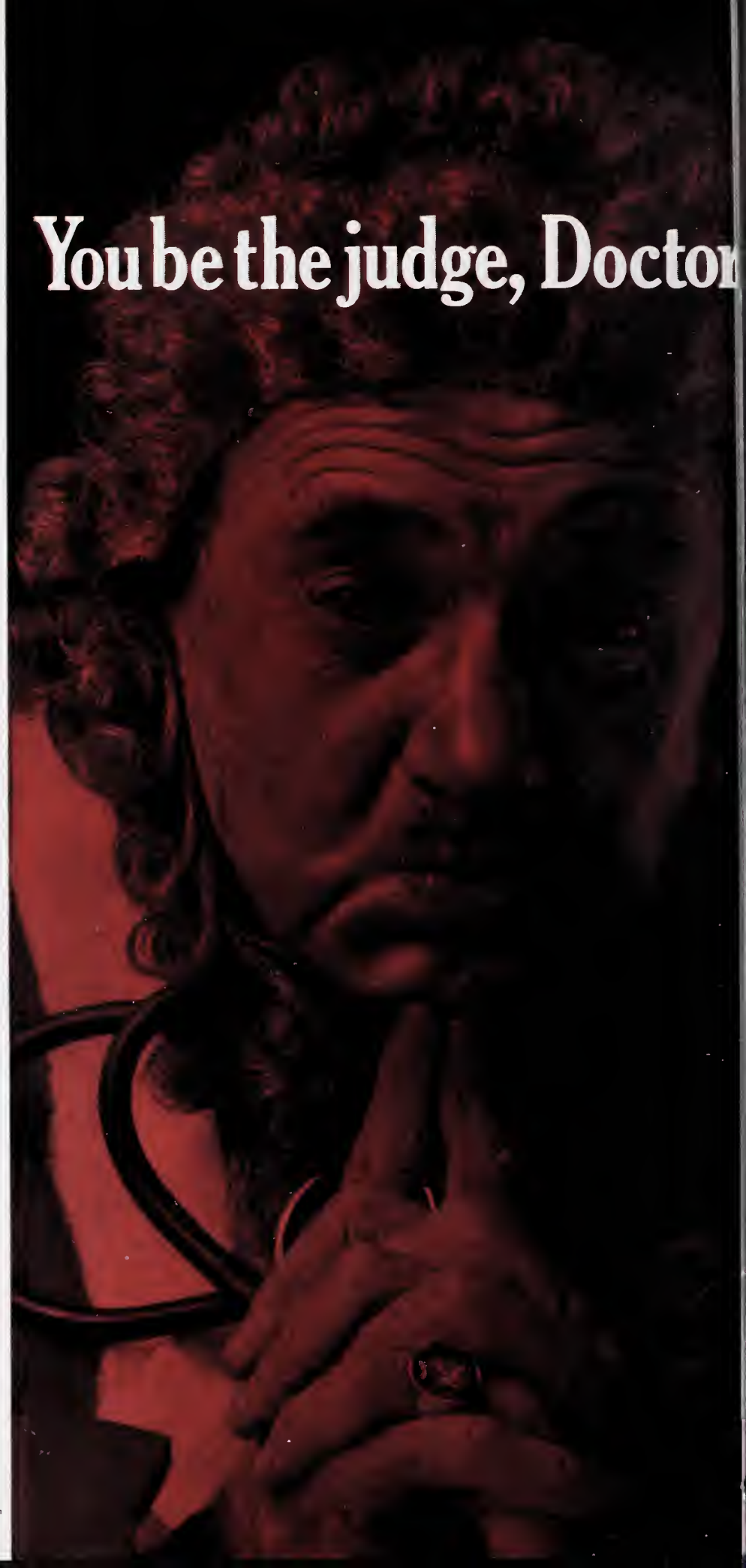
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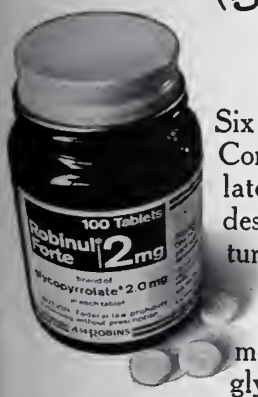
Adverse Reactions: Dryness of the mouth, blurred vision, urinary difficulties, and constipation are rarely troublesome and may generally be controlled by reduction of dosage. Other side effects associated with the use of anticholinergic drugs include tachycardia, palpitation, dilatation of the pupil, increased ocular tension, weakness, nausea, vomiting, headache, dizziness, drowsiness, and rash.

Dosage: Should be adjusted according to individual patient response. Average and maximum recommended dose is 1 tablet three times a day; in the a.m., early p.m., and at bedtime. See product literature for full prescribing information.

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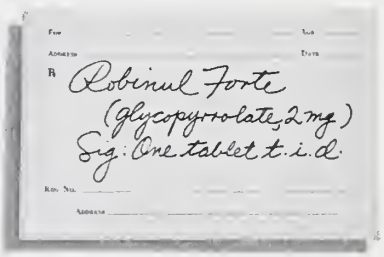
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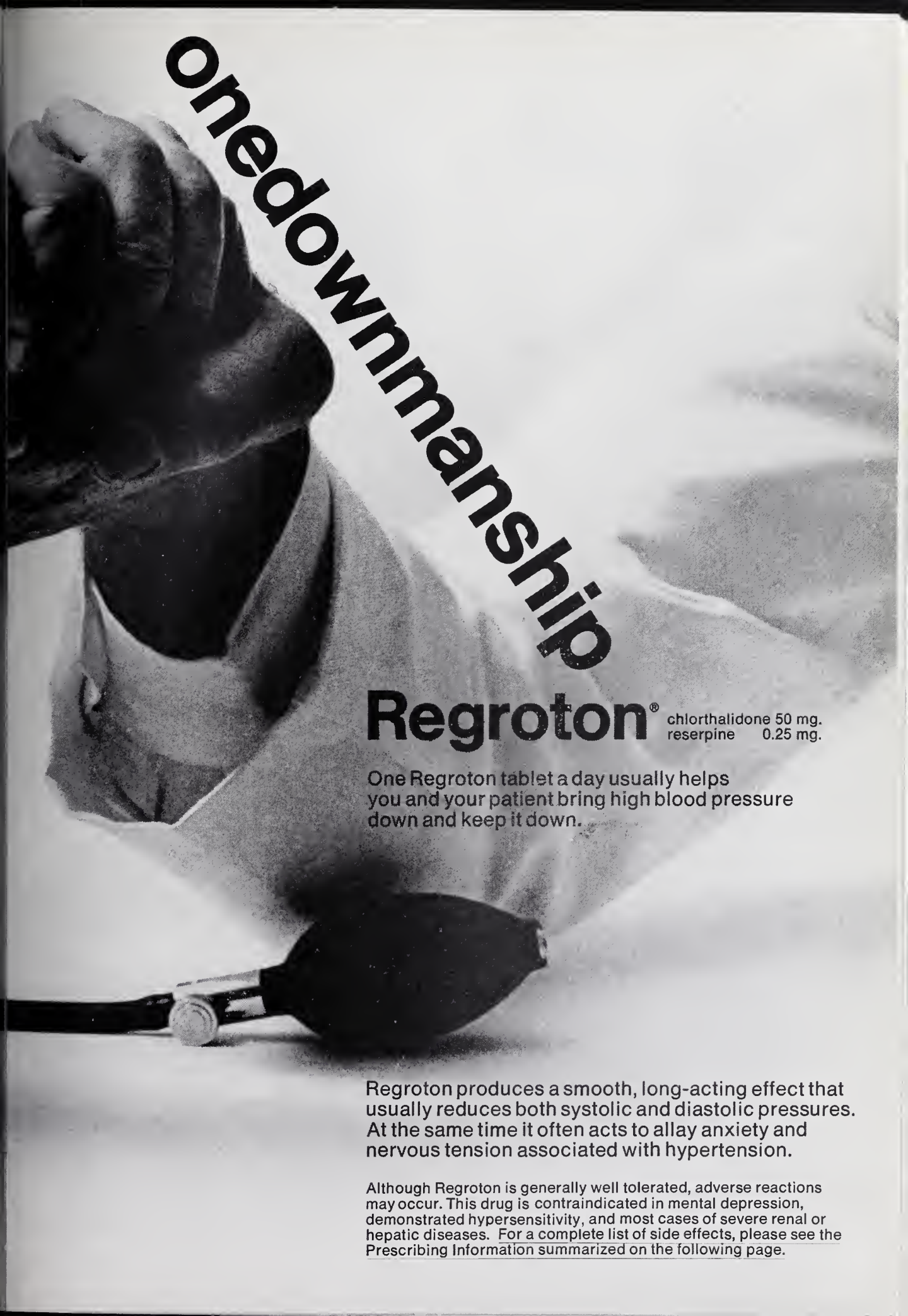
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Description: V-Cillin K, the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly), combines acid stability with immediate solubility and rapid absorption. Higher, more rapid serum levels are obtained than with equal oral doses of penicillin G.

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Contraindication: Penicillin hypersensitivity.

Warnings: In rare instances, penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin or with bronchial asthma or other allergies. Resuscitative drugs should be readily available. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: Use cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, discontinue administration and take appropriate measures.

Adverse Reactions: Although serious allergic reactions are much less common with oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it possesses a significant index of sensitization. The following hypersensitivity reactions have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

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See package literature for detailed dosage instructions for prophylaxis of streptococcus infections, surgery, gonorrhea, and severe infections.

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The Virginia
MEDICAL MONTHLY

January, 1969
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Guest Editorial . . . .

Clinical Pharmacology and Continuing Education

THIS ISSUE of the Virginia Medical Monthly is composed of papers from the University of Virginia School of Medicine, where most of them were originally delivered as part of its Continuing Education Program. This conference, September 27-28, 1968, was entitled "Problems and Progress in New Drugs, 1968" and the participants were all faculty members of the University, with the notable exception of the guest lecturer, Dr. Albert J. Wasserman of Medical College of Virginia.

All medical schools, of course, have Continuing Education programs, and most if not all practitioners are fairly familiar with their customary format, their classroom atmosphere, their notebooks and quizzes, etc. This is the way we learned medicine in medical school, and it has been taken for granted that we should continue to learn in the same fashion. Thoroughly modern medicine, therefore, will inevitably result from the combination of having enough of these classroom experiences and using some sort of carrot or stick to get practitioners to attend them.

"Problems and Progress in New Drugs, 1968" was designed in the traditional format, but out of its discussions there came a new idea of a different way to deliver continuing education: in essence, that medical centers should teach about new drugs by supervising practitioners' participation in their early clinical trials. The time and place were appropriate. Clinical pharmacologists have always grumbled that they must brain-wash away layers of solidified misinformation about drugs before applying a fresh coat of new, true information. The next logical step is to present the new information first, by the truly Socratic method of letting it come from, rather than to, the student.

In modern therapy drugs are developed by the pharmaceutical industry until they are ready for clinical trial conducted by physicians in practice. These clinical trials are often unimaginative because the Food and Drug Administration, rightly or wrongly, requires a good deal of mundane data. The average practitioner conducting an unimaginative trial often over-interprets his fuzzy results, but the uncritical editor of a lightweight journal may accept and publish them anyway. By the time this

article has been quoted and/or misquoted by advertising writers and detail men, the thrust of these sequential distortions has become, to a shocking extent, a durable and imposing error. Massive misinformation engulfs the practitioners.

This cycle could be broken by developing a system to channel these clinical trials through existing facilities of clinical pharmacology, which in turn would recruit, instruct, and supervise interested practitioners in the care and skills needed to do the job properly from start to finish. The results, conservatively interpreted, should be able to withstand the scrutiny of the most critical editors. But bigger bibliographies is not the goal of this proposal; it is rather that practitioners should learn about new drugs without bias or fanfare, by using them in their own practice and by discussing their combined experiences with the clinical pharmacologists as they go along. Intensive participation in even one or two studies often confers a permanent healthy skepticism toward unwarranted claims. Thus the practitioner will be inoculated against later misinformation and the need for refresher courses to remove it.

To translate this idea into reality requires the solution of four interrelated problems: (1) the pharmaceutical industry must support it; (2) there must be sufficient manpower in clinical pharmacology to get things started and keep them moving; (3) the practitioners must be willing to participate in all aspects of clinical trials: planning the protocol, finding patients, evaluating results, drawing conclusions, etc.; and finally, (4) there must be plans and resources available for an orderly expansion of the initial efforts to include a large segment of physicians in practice. All these are formidable obstacles, with the exception of the first. They will not be overcome unless there is broad support for such a program in the medical centers, in medical societies, in the highest levels of the Department of Health, Education, and Welfare, and among the population in general.

Admittedly this is a costly ounce of prevention, but it buys an impressive pound of cure. For this kind of continuing education affords a deeper understanding of disease peri passu with a greater competence in drug treatment. This is continuing education which moves (finally!) out of the classroom and into the real world of sick people. This kind of continuing education might reasonably be recognized as such by the AAGP, which has long accredited our customary exercises in brain-washing and re-learning. Indeed, it appears that all parties concerned would stand to gain by this innovation, not just because it is new, but because it effectively unites the practice of medicine and the research efforts which continually make that practice more perfect.

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Division of Clinical Pharmacology
Department of Internal Medicine
University of Virginia Medical Center
Charlottesville, Virginia 22903

Problems and Progress in New Drugs, 1968

The Alpha and Beta Receptors of the Sympathetic Nervous System

THOMAS C. WESTFALL, Ph.D.
Charlottesville, Virginia

THE AUTONOMIC NERVOUS SYSTEM is primarily an efferent motor system which regulates the functions of the many different smooth muscles, cardiac muscle, and exocrine glands throughout the body. This system, therefore, has the important function of controlling the internal adjustment of the organism and is for the most part under involuntary control (beneath the level of consciousness).

Anatomically, there are two main divisions of the autonomic nervous system, the (1) parasympathetic and (2) sympathetic. Most of the involuntary muscles throughout the body receive innervation from both the parasympathetic and sympathetic divisions and generally, but not always, these divisions are mutually antagonistic with regard to function.

Sympathetic Innervation Apparatus

A. *Anatomy*

Anatomically (Fig. 1), the sympathetic nervous system is a two-neuronal system with the cell bodies of the first neuron originating in the lateral horns of the spinal cord from either the 8th cervical or 1st thoracic to the 2nd, 3rd, or 4th lumbar segments. The axon of the first neuron (preganglionic fiber) synapses with a second nerve cell body within ganglia in close proximity to the cord. The neurotransmitter agent which carries out the function

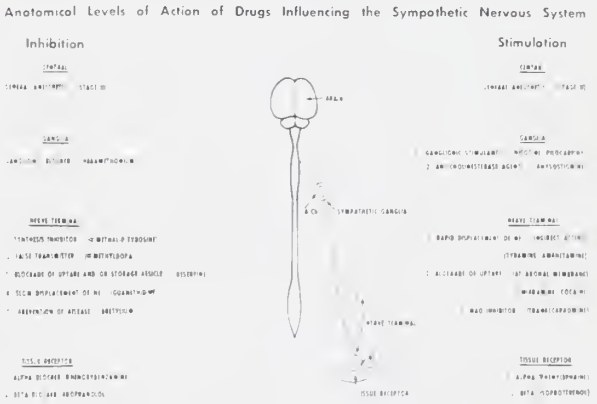


Fig. 1. Depicts a schematic drawing of the sympathetic nervous system. For details see text. This figure also summarizes the various anatomical levels of actions of drugs which either inhibit or stimulate the sympathetic nervous system. An example of each type of drug is included in parenthesis.

of synaptic transmission at the sympathetic ganglia is acetylcholine. The second cell body sends out an axon (post-ganglionic fibers) which divides into numerous branches as it approaches the innervated organ. These terminal branches contain large clusters of enlarged varicosities which contain the chemical transmitter, norepinephrine, which carries out the function of synaptic transmission at most postganglionic sympathetic terminals. Adrenergic transmission is the functional term that is used to describe

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transmission carried out by norepinephrine. Cholinergic transmission, on the other hand, describes transmission at synapses where acetylcholine serves as the chemical transmitter (all autonomic ganglia, postganglionic parasympathetic neuroeffector junctions, neuromuscular junctions, some postganglionic sympathetic neuroffector junctions and some synapses in the central nervous system).

B. *Physiology*

The transmitter, norepinephrine is synthesized within the presynaptic nerve terminals by means of several enzymatically controlled steps and is then stored within synaptic vesicles (granules). Upon the arrival of a nerve action potential at the nerve terminals as a result of increased sympathetic outflow the transmitter is released from the terminal varicosities into the subsynaptic cleft where it there migrates to the area of the receptor on the effector cell, and produces its characteristic physiological effect. The transmitter is then inactivated mainly by reuptake into the presynaptic nerve terminals where the transmitter is stored for reuse by the storage vesicles or is inactivated by mitochondrial monoamine oxidase. A much less important means of inactivation of the transmitter involves local inactivation by enzymes (monoamine oxidase or catechol-0-methyl transferase) or diffusion and overflow into the circulation. Figure 2 represents a schematic drawing of the adrenergic nerve terminal illustrating the various steps and stages of adrenergic transmission namely, biosynthesis of the transmitter, storage, release, receptor activation and inactivation of the transmitter. Numbers refer to the various sites at which drugs are known to act to either increase or decrease adrenergic transmission.

Adrenergic Receptors

A. *Concepts of Receptors*

That drugs or natural transmitters act on living systems by combining with cell or tissue receptors is a very old concept. In its broadest form, it merely states that to produce a biological effect, a chemical compound must combine or interact with some component of the living system. The something, therefore, is defined as a receptor.

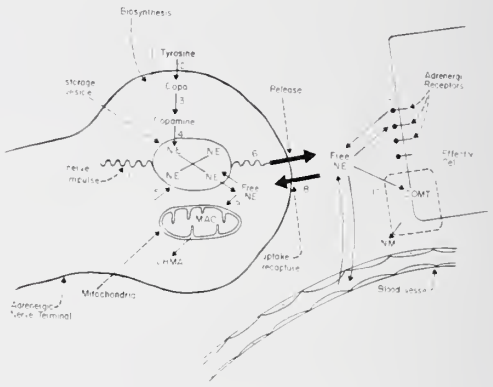


Fig. 2. Depicts a hypothetical drawing of the postganglionic sympathetic (adrenergic) nerve terminal including the various events involved in the synthesis, storage, release, receptor activation and the inactivation of the transmitter. The numbers refer to specific sites by which drugs are known to act by either increasing or decreasing adrenergic activity. Briefly drugs can inhibit the release of the transmitter (1), inhibit synthesis (2, 3, 4) interfere with the storage of the transmitter (5) increase release (6), stimulate or block the adrenergic receptor (7), prevent the inactivation of the transmitter by blocking recapture (8), inhibit the enzyme monoamine oxidase (9), or the enzyme catechol-0-methyl transferase (10).

A drug which can combine with this receptor and elicit a physiological or pharmacological response is termed an agonist while a drug which combines with the receptor without producing a biological response is described as an antagonist.

The adrenergic receptor is thought to be the specific molecular site or structure in or on effector cells with which molecules of adrenergic agonists (either the natural transmitter or substances which mimic the action of the transmitter) react in order to elicit the characteristic response of the cell.

It has not yet been possible to isolate the adrenergic receptor so most of the present knowledge concerning the receptor has been obtained by indirect pharmacological studies utilized to characterize the receptor. This has been done mainly by: (1) comparing the biological responses to structually dif-

ferent but chemically related substances and (2) comparing the responses to specific receptor blocking agents (antagonists).

B. *Alpha-Beta Receptors*

Currently the most widely used system for classifying the pharmacological responses of adrenergic agonists on smooth and cardiac muscle is based on the alpha-beta theory originally described by Ahlquist.[1]

This theory proposes that there are two different adrenergic receptors with which molecules of adrenergic agonists act. The characteristic response that is observed, therefore, depends upon the specific receptor which is activated. The alpha receptor subserves predominantly excitatory responses while the beta receptors subserve mostly inhibitory responses. There are two important exceptions to this general rule, namely: intestinal smooth muscle where activation of the alpha receptors produces an inhibitory response and the myocardium, where activation of beta receptors leads to excitatory responses. Tables I and II summarize the current status of our knowledge concerning the distribution of alpha and beta receptors in various effector organs and the response that is produced by their activation. It is important to point out that adrenergic receptors are not proportioned equally in all effector organs either as to receptor type (alpha or beta) or as to the absolute number of receptors.

Tables I and II also list the relative order of potency of three adrenergic agonists which are frequently used to help classify adrenergic receptors, namely: epinephrine (natural hormone of the adrenal medulla), norepinephrine (neurotransmitter of adrenergic nerve and a hormone of the adrenal medulla, and isoproterenol (a synthetic catecholamine). Generally, the relative or-

1. Ahlquist, R. P.: Am. J. Physiol. 154: 586 (1948).

TABLE I

Classification of Adrenergic Receptors

Receptor Type	Effector Organ	Response	Relative Potency of Agonists	Representative Antagonists
Alpha (α)	Radial muscle or iris	Contraction	Epinephrine> Norepinephrine> Isoproterenol	Haloalkylamines (phenoxybenzamine; dibenamine) Ergot alkaloids Imidazolines (phentolamine; tolazoline)
	Vascular smooth muscle	Contraction (constriction)		
	Stomach sphincters	Contraction		
	Intestinal smooth muscle	Relaxation		
	Intestinal sphincters	Contraction		
	Urinary bladder sphincter	Contraction		
	Urinary bladder trigone muscle	Contraction		
	Uterine smooth muscle	Variable		
	Pilomotor muscle of skin	Contraction		
	Splenic capsule	Contraction		
	Sweat glands	Secretion		
	Salivary glands	Secretion		

TABLE II

Classification of Adrenergic Receptors

Receptor Type	Effector Organ	Response	Relative Potency of Agonists	Representative Antagonists
Beta (β)	Ciliary muscle	Relaxation	Isoproterenol> Epinephrine> Norepinephrine	Propranolol Dichloroisoproterenol
	Myocardium	Stimulation		
	Vascular smooth muscle	Relaxation (dilation)		
	Bronchial smooth muscle	Relaxation		
	Stomach smooth muscle	Relaxation		
	Intestinal smooth muscle	Relaxation		
	Urinary bladder detrusor muscle	Relaxation		
	Uterine smooth muscle	Relaxation		

der of potency for activating alpha receptors is epinephrine > norepinephrine > isoproterenol and for beta receptors, isoproterenol > epinephrine > norepinephrine. These orders of potencies cannot be extrapolated for receptors in every effector cell, however, but stand rather as a general rule. Epinephrine appears to act equally well on both types of receptors while norepinephrine is very active on alpha receptors and beta receptors in the heart, but is less active on beta receptors in other effector cells (for instance, blood vessels or tracheal smooth muscle). Isoproterenol appears to act predominantly on beta receptors with very little or no activity on alpha receptors. Currently adrenergic stimulants are often classified as to the predominant effect in stimulating one or the other or both adrenergic receptors (for instance, isoproternol, a beta stimulator, and phenylephrine, an alpha stimulator).

Also included in Tables I and II are representative antagonists or blocking agents.

The drugs listed in Table I therefore block the responses due to activation of the adrenergic alpha receptor while being mostly devoid of any beta adrenergic blocking properties. Drugs listed in Table II, on the other hand, block responses due to activating beta receptors and not those due to alpha receptors. The clinical use of these drugs therefore will depend largely upon which particular response to adrenergic stimulation is to be blocked or reduced. Alpha adrenergic antagonists have been used in the diagnosis of pheochromocytoma (phentolamine, Regitine), in the preoperative and operative control of blood pressure in pheochromocytoma and in patients not amenable to surgery. In addition, alpha blockers have met with some success in the treatment of hemorrhagic shock and to a much less extent in hypertensive and peripheral vascular disease. Beta adrenergic blockers, which have only recently become available for clinical use, have been used with success for treating certain cardiac arrhythmias, hypertrophic subaortic stenosis and pheochromocytoma. Some success has been reported in the treatment of certain cases of angina pectoris, hypertension, and in patients with hyperthyroidism, certain anxiety states and basal ganglia disease. It should be pointed out that beta blockers have not yet been clearly shown to be effective in all the above mentioned disorders and as yet are approved for clinical use only for arrhythmias, hypertrophic subaortic stenosis, and pheochromocytoma. However, the future clinical use may extend far beyond our present experience. In addition to the clinical use of alpha and beta adrenergic blockers, as well as specific alpha and beta stimulants, these drugs have been invaluable tools in helping to dissect the sympathetic nervous system.

C. *Metabolic Receptors*

In addition to the effect of adrenergic agonists on smooth muscle, cardiac muscle, and exocrine glands, a variety of metabolic responses can be produced as summarized in Table III. It is not yet completely clear whether or not these various metabolic responses are due to the activation of receptors identical to the alpha-beta receptors described above. Some attempts have been made to classify the metabolic responses on the above basis. However, the composite nature of the metabolic responses due to the adrenergic stimulation in the intact animal is such that several actions on different tissues are involved. Presumably this means that different receptors are involved, and the total metabolic response may not simply be described as being due to activation of alpha or beta receptors.

The biochemical mechanisms leading to certain of the metabolic response of adrenergic agonists, such as muscle and liver glycogenolysis, as well as adipose tissue lipolysis, are fairly well known. In all three cases they seem to be dependent on the activation of the adenyl cyclase system, an enzyme which catalyzes the conversion of ATP to cyclic AMP which in turn leads to

the activation of phosphorlylase or lipolysis. Some evidence has been accumulated to suggest a similarity between adenyl cyclase and the beta adrenergic receptor. Whether or not this is truly the case will require further experimentation.

The author feels that it is still premature to attempt to describe the various metabolic responses listed in Table III as being due to activation of the same alpha and beta receptors listed in Tables I and II. Instead it is desirable to list the metabolic receptors as separate entities but being very similar to the alpha and beta receptors.

TABLE III

Classification of Adrenergic Receptors

Receptor Type	Effector Organ	Response	Relative Potency of Agonists	Representative Antagonists
Metabolic (?)	Muscle glycogenolysis	Hyperlacticemia	Epinephrine > Norepinephrine*	
	Liver glycogenolysis	Hyperkalemia		
	Adipose tissue lipolysis	Hyperglycemia		
	Calorigenic effects	Rise in free fatty acids	Isoproterenol*	Methoxamine
		Rise in O_2 consumption	(* activity depends upon species + tissue)	Butoxamine

Summary

The present report has attempted to summarize current adrenergic receptor theory by briefly describing the adrenergic innervation apparatus as well as a classification of the receptors themselves. The responses produced by adrenergic agonists on smooth and cardiac muscle are thought to be due to activation of either the alpha or beta receptor. These receptors have been characterized pharmacologically by (1) analysis of order of potencies of agonists and by (2) specificity of blockade by adrenergic antagonists. This concept of adrenergic receptors has been very useful in classifying and predicting the action of drugs and is as valid as all other currently available receptor models. Although being a very useful and systematic method of describing the action of drugs on adrenergic receptors, this present concept of alpha and beta receptors should not negate further studies in defining the actions of drugs at the subcellular level. It should also be remembered that the alpha or beta receptor in one effector organ, although being very similar to corresponding receptor in another effector organ, need not necessarily be exactly the same. Until such time when specific molecular characterizations of the adrenergic receptor is accomplished, the alpha-beta theory should continue as a very useful concept. There is still not enough evidence to define the metabolic responses of adrenergic agonists as being due to an action on alpha and beta receptor, although there are many similarities particularly with regard to the beta receptor.

Department of Pharmacology
University of Virginia Medical Center
Charlottesville, Virginia 22903

The Super Diuretics

When and How to Use Them

FREDERIC B. WESTERVELT, JR., M.D.
Charlottesville, Virginia

SINCE THE INTRODUCTION of chlorothiazide, a variety of potent oral diuretic agents has appeared, rendering near-commonplace that which was once most difficult—the effective management of edematous states. In recent years, we have entered the "golden age of diuresis", thanks to two potent drugs, ethacrynic acid and furosemide. Chemically dissimilar but functionally almost indistinguishable, these drugs have passed muster as investigational items, have weathered the protestations of those who wailed that they were too potent for use by any but the sophisticate, and have assumed their rightful place as agents to be used by mortals in treating mortals.

Edema and Diuresis in Perspective

The expansion of extracellular fluid which we call edema results from a failure to excrete as much salt and water as one ingests or with which one is infused. Normal man has an exorbitant capacity to dispose of such loads—not so the ill. While failure of influx (pre-renal) or efflux (post-renal) contribute to fluid retention, the intrarenal processing of filtered sodium and water is of prime import. I do not belittle the role of glomerular filtration, yet realize that were the entirety of a meager glomerular filtration five percent of normal, perhaps 7 ml/min, excreted, daily losses would approximate 10 liters of urine and 83 grams of salt! Controlling factors thus are more precisely the osmotic relations between tubular lumen and peritubular plasma, the existence of active sodium transport at all levels of the nephron, and control over this transport by two humoral mediators—natriuretic factor ("third factor") and aldosterone.

The diuretic drugs, when operative, have in common the ability to alter these influences, increase the fraction of filtered sodium which completely traverses the nephron, and by causing the excretion of salt to equal or exceed intake, thus prevent or reduce expansion of extra-cellular fluid, edema.

Disorders in which such effects are desirable are well known-congestive heart failure, nephrotic syndrome, cirrhosis of the liver and, occasionally chronic renal failure, i.e., systemic edematous states. It is not rational to counter edema of local cause—venous obstruction, trauma, burns, etc.—with diuretics, for one is then jeopardizing the whole to benefit a part. Similarly I have reservations about the use of diuretics in treating hypertension not accompanied by salt retention—while frequently effective this may merely substitute one abnormality for another, occasionally with regrettable consequences.

A word about "diuretic resistance": while occasionally it is inexplicable that a patient will fail to respond appropriately to a diuretic drug, more commonly one or both of two factors are responsible—intense disease or the effects of previous diuresis. Of the former, gross circulatory impairment due to heart failure, hypovolemia, or hypotension, low glomerular filtration rate and/or marked hyperaldosteronism are prime representatives. Prior diuresis may promote these, but in addition may render the metabolic climate inhospitable to further drug effect by means of alkalosis or acidosis, hyponatremia, hypochloremia, or intensified aldo-

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sterone effect. With less potent diuretics these factors may serve a useful purpose in that imbalances created by treatment serve as limits to excessive diuresis—though admittedly not always with great wisdom or convenience. The effectiveness of ethacrynic acid and furosemide is seemingly little impaired by such derangements, however. Either is frequently effective in the presence of marked renal failure (glomerular filtration rate less than 20 ml/min)[3] a unique property. While herein lies one reason for their success, the possibility of "overdoing it" is commensurately greater.

Effects of the "Super Diuretics"

So much for ground work—what do the "super diuretics" have to offer? Principally, potency, with ethacrynic acid being perhaps the more potent than furosemide. These drugs do not truly invoke a "new" mechanism of diuresis, but merely act more thoroughly. For perspective, be it noted that while chlorothiazide may promote the excretion of up to ten percent of filtered sodium, and meralluride up to twenty percent of filtered sodium, both ethacrynic acid and furosemide have, at peak effectiveness, caused the excretion of more than thirty-five percent of filtered sodium.[1,2] Fortunately for our patients these effects are brief. While unusual, ethacrynic acid-induced losses of ten liters of water, 500 mEq. of sodium and like amounts of potassium in a twenty-four hour period are on record.[1]

The problem with potassium loss is an oft-belabored one, and these drugs permit no exception. Potassium loss incidental to diuretic therapy is fundamentally a function, not of the drug employed, but rather of the avidity of the distal nephron for sodium and the resulting electrochemical impetus for potassium secretion, and is aldosterone-directed. For a given degree of aldosterone-priming, the more thorough the blockade of sodium reabsorption upstream, the greater the potassium loss into final urine. By their very nature potent, and thus used in instances where other drugs have failed, these drugs can cause high potassium losses, but they do not in themselves cause potassium secretion. This can be counteracted, if necessary, as we shall see.

Alkalosis is a noteworthy and frequent result of the use of these drugs. This is attributable to potassium and chloride loss, the augmentation of hydrogen excretion, and "contraction" of plasma volume around its bicarbonate content resulting in an increased plasma bicarbonate concentration without commensurate increase in pCO_2.

What of the side effects? By this I refer not to their over use (for this is a "logical" consequence) but rather those noxious aspects basically unrelated to diuresis. Neither drug is directly nephrotoxic, as may be the mercurial diuretics and probably triamterene. Both may lead to hyperuricemia, rarely to acute gout. Furosemide has caused hyperglycemia, while ethacrynic acid seems not to do so. Both may produce diarrhea (an effective if unpleasant means of "diuresis") and especially after prolonged use, ethacrynic acid leads to nausea, vomiting and anorexia, less so furosemide. Ethacrynic acid has caused transient hearing loss. Other minor side effects, such as hepatotoxicity, dermatitis, and bone marrow suppression are exceedingly rare with either drug.

When to Use Them

Perhaps this question has philosophical overtones. To be sure one might use either in the mildest of edematous states and, with due prudence, cause no harm. But as we have seen, their prime virtue is potency, not magic, and in this potency lies both effectiveness and over effectiveness. Just as one does not hunt squirrel with a .357 Magnum, or treat bacteriuria with colistin where a sulfonamide would do as well, so should one use the mildest, safest diuretic that will do the job. Mercurials and "thiazides" should remain the work horses of diuresis—they are effective and well tolerated, and in con-

junction with triamterene or spironolactone will satisfactorily cope with most patients' edema problems. I would thus advocate holding ethacrynic acid and furosemide in reserve, to be used when gentler means fail, as in severe heart failure, cirrhosis with ascites, etc.

While there is no evidence to cause concern, experience is not yet adequate to assure fetal safety when these drugs are used in early pregnancy, and prudence in this regard is advised.

Much has been recorded concerning the use of these drugs in acute pulmonary edema. While prompt diuresis may ensue, the need for such and its contribution to patient improvement is not well proven. A recently published study[4] denies that such therapy confers benefit to the patient beyond that of traditional therapy, but others are more enthusiastic.[5,6] In those not promptly responding to other therapy, either drug may be an important adjunct.

The use of ethacrynic acid has been advocated in thwarting the progress of early oliguria into acute renal failure, and in some cases may have been effective when volume replacement or mannitol infusion have failed. The rationale of this is not entirely clear but further experience may confirm this usefulness.

And How

Both drugs are effective orally or intravenously, the latter route providing almost immediate but somewhat briefer effect. Rarely if ever would the time of response be an indication for parenteral use—convenience of administration may thus dictate, however. While so similar in most respects, these are different drugs and it has been noted that failure to respond to one does not preclude possible effectiveness of the other.

Beginning recommended doses are low, with daily increases until response or failure, and there are failures, is observed. Furosemide can be given at 40 mg daily, increasing as needed by 40 to 80 mg daily to a limit of perhaps 800 mg. in two to three divided doses, the latter invariably accompanied by gastrointestinal upset. Ethacrynic acid doses range from 25 mg daily to 100 mg every six hours. It is desirable that either drug be used intermittently—i.e., in courses of several days once an effective dose range is established. They are more effective thus given, and gross fluid and electrolyte derangements are largely avoided.

As combination diuretic therapy is both popular and frequently rational, let us examine this aspect of these two drugs. Both will potentiate carbonic anhydrase inhibitors[1] but the more-than-additive effect is of little benefit. When added atop either chlorothiazide or meralluride, a greater diuresis will ensue; however, the reverse is not true, implying that the super drugs act on the same systems and sites as do the others, but more potently. Hence, there is no advantage to these combined uses. Most salient is the joint use of ethacrynic acid or furosemide and either spironolactone or triamterene—the latter, acting as they do to blunt aldosterone effect more distally in the nephron, can meaningfully lessen potassium loss and augment diuresis. This maneuver may be of especial value in treating the digitalized patient and the patient with severe liver disease and threatened encephalopathy.

Summary

Ethacrynic acid and furosemide are the most potent drugs in our diuretic array. Used judiciously, they may impart relief to edematous patients in whom other measures are not sufficient. Their use should be with respect, not with awe, and based upon cognizance of their potential for good and harm. These drugs should not replace, but rather serve as an extension of, other diuretic regimens.

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New Drugs for the Treatment of Hypercholesterolemia

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THE HIGH INCIDENCE of all types of clinical atherosclerotic disease and the high death rate from coronary artery disease in particular makes this one of our major health problems. Epidemiological research has yielded considerable evidence showing a relationship between elevated serum cholesterol and triglycerides and an increased risk of coronary artery disease. Large scale nutrition studies have demonstrated that the hyperlipidemias can be successfully managed by dietary therapy. Therapy of the hyperlipidemias should be undertaken with the understanding that the available evidence would indicate that the progress of the atherosclerotic process may be impeded and clinical coronary disease prevented rather than the disease process in the artery being cured by the treatment. Physicians should also recognize that in undertaking therapy for hyperlipidemias as a preventive measure, he is committing the patient to very long term therapy, possibly for the remainder of his life. Although the proof of the effectiveness of therapy of hyperlipidemia in decreasing the incidence of coronary artery disease must await results of large scale studies currently under way, the justification for treating those cases with a high risk of this disorder seems established.[1]

Successful therapy of hyperlipidemia requires the accurate classification of the type of hyperlipidemia. The clinical classification as proposed by Frederickson, Levy and Lees[2] is a useful means of classifying these disorders and is based on the chemical determination of serum cholesterol and triglyceride plus lipoprotein electrophoretic patterns. Once classified, the proper dietary management for the particular type of hyperlipidemia can be instigated. Diet therapy should be the primary form of therapy in all patients and drugs should be added to the regimen when the maximum effect of the proper diet has been achieved.

Three of the newer drugs that are useful adjuncts in the therapy of the hyperlipidemias are clofibrate (Atromid-S®), D-thyroxin (Choloxin®) and cholestyramine (Uemid®) or (Questran®). Clofibrate is an effective drug for lowering both cholesterol and triglycerides.[3] The mode of action for lowering serum cholesterol is thought to be by interference with cholesterol synthesis by blocking the conversion of hydroxymethyl-glutamyl-CoA to mevalonic acid. The mechanism of the triglyceride-lowering action is not well understood and may be an interference with release of lipoproteins by the liver. The most common side effects of this drug are mild gastrointestinal discomfort which is seldom serious enough to warrant discontinuation of therapy. A more serious side effect is its potentiation of warfarin anticoagulants. If clofibrate is to be used with anticoagulants, the anticoagulant dose should be decreased by one-half before starting clofibrate, then the prothrombin time can be regulated after clofibrate has been started. Clofibrate is recommended as the drug of choice in all hyperlipidemias in which there is an elevated triglyceride as well as a hypercholesterolemia (Types III, IV, and V). It is less effective as a rule in cases of primary hypercholesterolemia (Type II) but it should be tried in those

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cases along with proper dietary management. The recommended dose is 2 gm. daily in four equal doses.

D-thyroxin, the dextrorotatory isomer of thyroxin, is a thyroid analogue which has about one-tenth the calorigenic effect of L-thyroxin.[4] This drug lowers serum cholesterol by increasing the catabolism of cholesterol in the liver. Its most serious side effect is the development of angina in some patients with hyperlipidemias; however, minor side effects of nervousness and diarrhea may require discontinuing its use. This drug is recommended in those cases of Type II hyperlipidemia that are unresponsive to other forms of therapy. It should be used in doses varying between 4 and 8 mg per day.

The third new drug being used in the therapy of hypercholesterolemia is cholestyramine. This drug is the chloride salt of a basic anion exchange resin and has been used in therapy of cholestasis. It should still be considered an experimental drug for treatment of hypercholesterolemia. Its mode of action in lowering serum cholesterol is probably through blocking the reabsorption of bile acids and increasing the breakdown and secretion of cholesterol and may also interfere with cholesterol absorption.[5] Side effects seen with the doses required to effectively lower cholesterol are nausea, diarrhea and constipation. The required dose varies from 12 to 20 gm per day. This drug is being tried mainly in cases of Type II hypercholesterolemia.

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Are the New Psychotropic Drugs Better?

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ROUGHLY since the middle 1950's physicians have had available to them an increasing number of medications designated as valuable in treating a variety of psychiatric disorders. Are these compounds more efficacious than their predecessors?

I shall refer to these agents generally as "psychotropic drugs", including in this discussion the major and minor tranquilizers, the anti-psychotic and the anti-depressant drugs. However, I shall not discuss the psychotonemetic drugs such as LSD, mescaline, etc.

Minor tranquilizers are by definition essentially anti-anxiety drugs. This implies that they are not the same as other well-known sedatives, nor do they have primary usefulness in the treatment of psychotic states. Major tranquilizers, such as the phenothiazines, are by definition helpful in ameliorating psychotic states. However, they may be used in smaller doses as anti-anxiety agents. Anti-depressant drugs are those compounds apparently useful in the treatment of depressions, primarily the so-called endogenous conditions.

Medications used previous to those currently in vogue included the various sedatives, such as the barbiturates chloral hydrate, and bromides, as anti-anxiety preparations. In Western medicine we had no anti-psychotic drugs per se, although the rauwolfia (resperine, etc.) drugs had an ancient history in India. As for anti-depressants we were formerly limited to the central nervous system stimulants, such as caffeine and especially the amphetamines. Although I cannot be sure of your experience, as a practicing psychiatrist I can say that I was never very happy about the effects of any of the commonly used drugs prior to the middle 1950's. Since then I use them infrequently in comparison with the newer preparations.

"Are the newer psychotropics better?" is a question more applicable to anti-anxiety agents which are prescribed in great volume by American physicians. The total tonnage of these drugs consumed by U.S. adults does prompt the label of a "drugged society" and may well play some part in the drug use of our coming generation (albeit the drugs concerned are different). References to follow will indicate conflicting evidence from so-called "controlled studies" as to the efficacy of newer anti-anxiety drugs over the barbiturates and placebos. My conclusion generally is that they do have some advantages but not to the extent claimed by some studies.

Non-pharmacological effects influencing the apparent "effectiveness" of drug treatment are very important to keep in mind. To mention a few they include your attitude and expectations about the effects, similarly the patient's often unexpressed attitudes, sex, age, duration of illness, socio-economic status, placebo effect, and most importantly, the overall patient-physician relationship. Some evidence indicates lower socioeconomic class clinic patients with anxiety do best with phenobarbital as compared with diazepam (Valium). The reverse seemed to be true with private psychiatric patients of much higher economic class. General practice patients in this study showed little difference between the two drugs.

When one considers the many variables of a non-pharmacological nature mentioned above, it is clear how difficult it is to evaluate the literature as well as one's own ex-

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perience. There are so many variables to take into consideration.

Some general comparisons between the barbiturates and the newer anti-anxiety agents may be made, however. The newer drugs have a much greater margin of safety; generally they may produce adequate tranquilizing effect without hypnotic effects; they produce less confusion, may have less side effects and are less likely to enhance underlying depression. Dependency and withdrawal reactions are seen with both groups of drugs.

Currently there are approximately twenty minor tranquilizers available on the market. Only about six of these will be mentioned. Most of the others have not been demonstrated to be of great value.

Meprobamate (Miltown or Equanil) is the oldest and most well known. Its muscle relaxing qualities have been stressed, but I might point out that we do not know if this is really an important pharmacological effect as far as its anti-anxiety usefulness is concerned. In my experience this drug has been more troublesome than others in the problems of patient misuse, habituation, and withdrawal.

Another drug in the same group, tybamate, first appeared as Solacen and more recently as Tybatran. Some studies have suggested its value is slower in onset but may be more valuable in the more severely ill anxiety patients. Its real value and importance have yet to be established.

The diazepine group includes chlordiazepoxide (Librium), diazepam (Valium), and oxazepam (Serax). They are closely related chemically and metabolically. The basic differences, if any, in their clinical results have yet to be demonstrated. Chlordiazepoxide in higher than usual doses may prove to be the drug of choice in acute alcoholic withdrawal states. It may have somewhat greater hypnotic potential than the other two. However in clinical use, I have not been able to detect any consistent superiority of any of these over the others.

Hydroxyzine (Atarax or Vistaril) has its strong advocates, many outside of the field of psychiatry. It is often used parentally with wide margin of safety. My own experience is limited, and I have not yet been very impressed with these preparations.

If your personal experience with these or other drugs has been different, certainly be guided by your own experience until further study and experimentation can establish firmer facts. Also keep in mind that we cannot talk about a single disease of "anxiety". Each patient is different in a multitude of ways and cannot be expected to react to medications like any other patient. In addition, although we are talking about drugs, the most important factor in any treatment remains the patient-doctor relationship.

If we move to the major tranquilizers or the anti-psychotic drugs, I think we may limit ourselves to the phenothiazines. Some other anti-psychotic agents are being investigated but are too new to say much about. The rauwolfia drugs have proven to be less effective than the phenothiazines and are not widely used for psychiatric conditions. Do not try to use all of the phenothiazines but rather learn all you can about a few and gain experience with them. No one drug has been proved to have greater anti-psychotic effect than others, although in individual cases one may seem to be better than others. In treating psychoses you must use an adequate anti-psychotic dose for an adequate period. In our experience this failure is the most common one seen in "drug failure" patients referred to us. An adequate dose of these preparations may produce extra-pyramidal nervous system syndromes which should be controlled by anti-Parkinsonian drugs such as benztropin methanesulfonate (Cogentin), procyclidine hydrochloride (Kemadrin), trihexyphenidyl (Artane), etc. There is no question that these psychotropics are "better" because there was nothing like them before. (Insulin shock treatment is difficult to compare with oral drugs administered over an indefinite period of time; comparative studies available

would indicate that the phenothiazines are somewhat more effective in acute schizophrenic disorders.)

Some chronic schizophrenic patients seem to require these drugs indefinitely. Without them they relapse. Many of these patients also need some continuing contact with you to continue taking their medicines. Sometimes failure to take any necessary medication is an indication that we have neglected the individual.

The anti-depressant drugs, in contrast to the central nervous system stimulants, are generally classed as those that inhibit monoamine oxidase (MAO inhibitors) and secondly those that do not. The latter are a group of tricyclic compounds somewhat similar to the phenothiazines in chemical structure. (In this connection it is interesting that in contrast to some earlier reports there is newer evidence that some phenothiazines have anti-depressant effects.)

The MAO inhibitors presently include such drugs as isocarboxazid (Marplan), nialamide (Niamid), tranylcypromine (Parnate), and phenelzine (Nardil). Although certain individual patients seem to respond to these drugs more favorably, in general the tricyclic drugs are more effective and safer to use. By and large the MAO inhibitors appear to be used less and less.

The tricyclic drugs include imipramine (Tofranil), amitriptyline (Elavil), desipramine (Pertofrane or Norpramin), nortriptyline (Aventyl), and more recently protriptyline (Vivactil). The latter is too new to review at this point. The others have not yet proven to be superior one to another. Claims of more rapid onset of action have not yet been substantiated. Amitriptyline, more than the others, does seem to have a degree of tranquilizing effect and thus may be more helpful initially in agitated depressions.

Again these drugs must be used in therapeutic doses to be effective and for a sufficient length of time. In graduated doses most patients can tolerate therapeutically required levels at home as well as in the hospital. Since the advent of these drugs, our use of electro-convulsive therapy has decreased in both the number of patients requiring E.C.T. and the number of E.C.T.'s administered per drug treated patient. In spite of these experiences, most studies report electroshock treatment to be the most efficacious treatment of severe depressions. Certainly it is the most dependable and the most rapid method of treatment. However, unless there is too great a danger of suicide, I personally prefer to treat first with antidepressants and utilize E.C.T. only when necessary.

In summary, although I think some of the presently available psychotropic drugs are better than their predecessors, this is probably not true of all of them. Many things "new" look better only for a while. What we have now is certainly not adequate, and I expect that the eventual value of the present day psychotropic drugs will be their stimulation to neuropharmalogical and neurophysiological research.

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Selecting Proper Drugs for the Diabetic

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THE AVERAGE DIABETIC PATIENT finds daily self-medication to be a lifetime chore, but its inconvenience can be diminished by the proper selection of the best therapeutic agent at the start. This not inherently difficult choice depends upon his physician's wisdom in posing and answering certain basic questions.

First, does this particular patient need drugs at all? Diet therapy alone, carefully prescribed and conscientiously followed, is surprisingly effective in the obese middle-aged person with only moderate hyperglycemia and little or no glycosuria. The greatest dividend from this approach is the patient's appreciation of his diet as a technique for controlling his disorder rather than as an impossible chore rendered unnecessary anyhow by the omnipotent pills.

Many patients, of course, cannot be controlled by diet alone. Then the real question comes, should the patient begin to take insulin or oral agents? The vast majority of diabetics meet none of the usual indications for insulin: relative youth, pregnancy, marked weight loss, any tendency toward ketoacidosis, etc. Yet it is never wrong to use insulin initially; it is much better for the patient's morale to graduate from the needle to the pill than vice versa.

Among the oral hypoglycemic agents, phenformin is different in two respects: it seems to facilitate weight loss for the markedly obese, but should probably be avoided by patients with arteriosclerotic heart diseases. Such patients are subject to vascular catastrophes producing shock, and shock in a person taking phenformin might well lead to fatal lactic acidosis.[2]

Choosing among the current sulfonylurea drugs depends upon considerations of potency, toxicity, or economy, as indicated in Table 1.

TABLE 1

Drug	Equivalent Daily Dose	Daily Cost	Toxicity
Tolbutamide (Orinase®)	1.0 gm.	.23	0
Chlorpropamide (Diabinese®)	0.25 gm.	.11	+
Acetohexamide (Dymelor®)	0.5 gm.	.10	±
Tolazamide (Tolinase®)	0.5 gm.	.37	0?
Phenformin (DBI-TD®)	0.1 gm.	.28	++

From the practical standpoint, potency is not so much the gm. per daily dose as the drug's ability to control, for a matter of years, a wide spectrum of diabetes unresponsive to other drugs. But this is unpredictable; patients who fail on tolbutamide often respond to chlorpropamide, or the reverse may be true, and occasionally failure with both drugs is followed by good control on diet alone.[3]

Toxicity includes severe hypoglycemia, cholestatic jaundice, leukopenia, and rarely hemolytic anemia in glucose-6-phosphate dehydrogenase deficient individuals.[4] Hypoglycemia is the most troublesome, having been reported to occur with every sulfonylurea drug, usually under the following circumstances: (1) an elderly patient started on a large dose; (2) unexpected starvation with usual dose of drug on board; (3) sudden alteration in kidney function (dehydration or shock) with impaired excretion; and (4) drug interactions (phenylbutazone with acetohexamide, etc.).

In starting treatment with sulfonylurea drugs, a loading dose accomplishes little and is downright risky for elderly patients. A much more effective approach is to begin therapy with long-acting insulin, adding the oral agent after good control has been

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achieved thereby. As Beaser has emphasized, this method maximizes chances of success with the sulfonylurea and minimizes the patient's disappointment in case of failure.[5]

Many physicians start oral agents too readily; few discontinue them soon enough —even in patients who obviously are not controlled. Certainly one should not give up after only a week; sometimes it takes several weeks on maximum dosage to achieve control. But the real problem is the patient who was started two years ago on 0.5 gm. tolbutamide, twice a day, who is not and never was controlled, whose symptoms are few and concern about diabetes is nil. He represents primary failure to sulfonylureas, and the sooner he is switched to insulin the better for all concerned.

Of course, even well-controlled patients may eventually manifest secondary failure to the drug; in fact, each return visit imposes the obligation to check for it. Although estimates of the failure rate vary widely, the most convincing figures show that dietary indulgence and other minor factors account for secondary failure in 10.4% of diabetics on tolbutamide; another 4% fail for no known reason.[6] When secondary failure occurs, the physician may opt for a stronger sulfonylurea, for sulfonylurea plus phenformin, or for insulin. The first is rarely and unpredictably successful, the second is rather expensive; ergo, most patients require insulin. Needless to say, this transition goes much smoother if the patient is already familiar with insulin therapy.

Diabetes controlled by oral drugs behaves rather unpredictably during febrile infections, trauma, or surgical stress. If previous control has been excellent, and fluid intake and output are good, it is often possible to sail through these storms without much interruption of therapy. But if several have to be omitted, the resulting hyperglycemia will require regular insulin supplementation. Usually the situation corrects itself as soon as the patient is eating regularly again; if not, perhaps this episode marks the onset of secondary failure and must be handled accordingly.

Thus there are legitimate situations where insulin should be used to supplement oral hypoglycemic agents. But rarely if ever do the oral agents actually supplement insulin in the control of unstable diabetes. Early publicity to this effect (particularly as regards phenformin) raised hopes that were soon to be dashed in clinical practice, and the alleged benefit from the addition of phenformin probably derived from the greater interest in and closer care of these patients. Similar illusions about chlorpropamide and even tolbutamide have even less basis in fact.

Finally, the sulfonylureas have been assigned a tentative role in the prevention or postponement of early diabetes[7,8] and specifically of its vascular complications. In the original series of young people with mild diabetes, many abnormal tolerance curves were corrected by several months of tolbutamide, some remaining normal after the drug was stopped. These results have been maintained, and the series has been expanded to include a double-blind comparison of tolbutamide and a placebo control.[7] (This is a wise precaution since many untreated patients will show spontaneous fluctuations in glucose tolerance at this stage.) More definitely, but less cheerfully, another recent report shows no appreciable difference in the over-all incidence of vascular disease between comparable sulfonylurea-treated and insulin-treated diabetics.[9]

Even in 1968, drug therapy for diabetes mellitus presents as many problems as progress. Perhaps with care and cooperation the problems can be minimized. Certainly the lifelong duration of diabetes itself will always provide opportunity for more progress.

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Monthy Report of Bureau of Communicable Disease Control

	Nov. 1968	Nov. 1967	Jan.-Nov. 1968	Jan.-Nov. 1967
Brucellosis	0	3	55	38
Diphtheria	0	5	0	5
Hepatitis	75	47	537	683
Meningitis (Aseptic)	4	36	105	59
Meningococcal Infections	3	2	40	43
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	1	0	42	30
Rubella	30	3	626	652
Rubeola	19	34	330	2252
Streptococcal Sore Throat (including Scarlet Fever)	1326	982	12717	12843
Tularemia	0	0	3	0
Typhoid Fever	0	1	9	7
Rabies (in animals)	11	6	132	195
Venereal Disease				
Syphilis	140	162	1505	1861
Gonorrhea	1184	753	8738	8888
Other	4	0	15	14

Some Recent Advances in Analgesia

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MY COMMENTS ABOUT ANALGETICS will be based on their use during general anesthesia and during the acutely painful period in the post-anesthesia room. I have had no experience using the four new drugs in ambulatory patients.

There are still many incompletely understood aspects of actions of morphine. Dr. John Kayan, an anesthesiology resident at the time, demonstrated that morphine sulfate, 15 mgm., would produce a 20% increase in the capacity of the venous system at equivalent venous pressures. The applications to clinical situations of hypervolemia, heart failure, and hypovolemia are obvious.

Also, Dr. DiFazio, Assistant Professor of Anesthesiology, has demonstrated that the administration of morphine will produce a prompt reduction of excess lactate. Of the various possible explanations, a facilitation of the entrance of lactate into the Krebs Cycle seems most likely.

Experiences of anesthesiologists using narcotics as adjuvants during anesthesia have not supported the frequently printed claim that maximal alteration of the response to pain was obtained with 10-15 mgms. of morphine. It has recently been demonstrated in our laboratories, using animals, that progressive alteration of the response to pain can be obtained without an observable "plateau" of effect.

Pentazocine (Talwin, Winthrop) is a synthetic analgesic which has not been shown to produce addiction and is exempt from the narcotic control laws. It is a mild narcotic antagonist and should be used with caution in persons who may be physically dependent on narcotics.

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It is effective for pain relief; doses of 30 mgm. are approximately equivalent to morphine 10 mgm. but plateauing of effectiveness has been demonstrated in both animals and man. Fortunately, respiratory and generalized depression also seems to plateau. The usual precautions concerning the use of narcotics in persons with biliary colic, increased intracranial pressure, potential respiratory failure, labor, and so forth should be observed.

Methotrimeprazine (Levoprome, Lederle) is a phenothiazine derivative which likewise is exempt from narcotic control laws. It is a fair analgetic, excellent tranquilizer, and potent antiemetic in doses up to 20 mgm. Frequently 3 to 5 mgm. is adequate to calm a restless patient. It occasionally produces significant bradycardia; despite the warning that atropine may be ineffective in relieving the bradycardia, it has consistently done so in my experience. Severe orthostatic hypotension may also occur. The tendency to produce respiratory depression is less with methotrimeprazine than with other potent analgetics.

Fentanyl (Sublimaze, McNeil) is a very potent narcotic which does require a prescription. It has a pharmacologic profile similar to morphine but is 150 or more times as potent. It is an extremely potent respiratory depressant and also produces muscle rigidity which may make artificial ventilation impossible without the use of muscle relaxants. Its action is prompt and less than one-fourth the duration of morphine. Its chief usefulness is an adjuvant to general anesthesia and the package insert states that it is for this use only.

Innovar is a mixture of fentanyl 0.05 mg. and droperidol 2.5 mg. per milliliter. The action of fentanyl is as described above.

Droperidol is described as a neurolept. It produces sedation, tranquilization and a detachment from surroundings and stimuli. Some patients are unable to respond to pain but will complain bitterly the following day. Physicians who follow their patients closely will often note extrapyramidal tract symptoms the day following Innovar injection. These symptoms most frequently consist of catatonia and dystonia. Acathisia and oculogyric crisis is less frequent. This combination of drugs also seems to be useful principally during general anesthesia.

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Millionth Woman Tested in AAGP Cancer Program

A million women have been tested for cancer of the cervix at the end of the first four years of a nationwide cervical cancer detection program sponsored by the American Academy of General Practice. By the end of November more than 5,000 doctors in 40 states had participated in what has been described as the biggest single research project in history. Participating doctors have discovered 2,000 cases of cervical cancer since the project began and another 10,000 women with suspicious findings, requiring followup examinations. An integral part of the office detection program is the relay of each individual test result to the Public Health Service's Cancer Control Program branch in Washington, where it is computerized for further evaluation in relation to the total sample.

According to the chairman of the Academy's Committee on Cancer, it is significant that of the million women tested, one third received their first examination for the disease which killed 14,000 women each year.

Current Status of the New Antibiotics

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THIS PAPER will present a brief status report on some of the new antimicrobial agents currently available, and review some of the future drugs on the therapeutic horizon. These thoughts are presented as a synthesis rather than a point by point review of the literature.

Some New Agents

Tetracyclines.—Hundreds of analogues of tetracycline have been synthesized ever since this group of drugs was found to be useful in the treatment of a wide variety of infections. It now appears that none of these semisynthetic derivatives have a broader antibacterial spectrum than the parent compounds *tetracycline*, *oxytetracycline* or *chlortetracycline*, nor do they differ in mode of action. *Demethylchlortetracycline* was the first of many of the newer derivatives to be put on the market. It is somewhat more highly bound to serum albumin and persists longer in the serum than the parent compounds. The capsule size of 150 mg pretty much vitiates any therapeutic advantage it may have had. The exaggerated sunburn reaction induced by the drug is a decidedly undesirable side effect. Other new tetracyclines have been introduced by competing firms. These include *methacycline* and *doxycycline*. They resemble *demethylchlortetracycline* in long persistence in the blood, but offer no therapeutic advantage over the parent compounds, because of the lower doses used and marginally effective amounts recovered in the urine.

The long acting tetracyclines are marketed with the claim that the patient will need to take the drug less often and yet retain efficacy. Double doses of tetracycline will probably do the same, if given twice daily. It should be remembered that food and antacids tend to interfere with gastrointestinal absorption of most tetracyclines.

The tetracycline manufacturers probably have been impelled to introduce new analogues for marketing advantages based on claims of better patient acceptance. The threat of the widespread availability of low cost generic tetracycline is probably the major impetus. One does not have to purchase Italian tetracycline in order to obtain low cost drug. Indeed, some of the well known, large ethical concerns will sell tetracycline, in bulk, for about 3-4 cents per capsule. New regulations of the Food and Drug Administration demanding not only proper assay potency of capsules, but evidence of equivalency of absorption in humans should protect us from second rate products.

It would seem that the physician can be quite effective using "good old" tetracycline for appropriate indications. He would be wise to determine the relative cost to the patient of his favorite from his neighboring pharmacist, assure himself that it is made by an ethical house and prescribe a product which will provide both quality and low cost to his patient.

Tetracycline and Antifungal Combinations.—Gastrointestinal discomfort, diarrhea and occasional overgrowth of *Candida albicans* are sometimes troublesome complications of tetracycline therapy. They are best handled by using short courses of therapy or stopping the drug. Many tetracyclines are available combined with *amphotericin B* or *nystatin*. There are no convincing data that addition of these agents reduces the frequency of side reactions. Accordingly, I see no reason for prescribing them par-

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ticularly if such combinations tend to raise the price.

Lincomycin. — This new antibiotic has been on the market for the past year or two. It has an antibacterial spectrum similar to that of *erythromycin, novobiocin* and *penicillin G,* that is, against gram positive bacteria. It is a bacteriostatic drug like *erythromycin,* and can be used interchangeably with it. It is, however, a unique compound and development of resistance by staphylococci appears to be less marked than to erythromycin. Linomycin probably has its greatest appeal to clinicians because it can be given by intramuscular injection as well as by the oral route. Thus, the physician who wishes to avoid the use of penicillin in a simple type of gram positive bacterial infection may be tempted to use this instead. The oral form of the drug is absorbed irregularly from the gastrointestinal tract and in this respect is probably inferior to *erythromycin estolate.* On the other hand, hepatotoxicity reported with *erythromycin estolate* or *triacetyloleandomycin* (a weak erythromycin like drug) has not been a problem with lincomycin.

There has been much talk in orthopedic circles about the ability of lincomycin to penetrate bone and it has been reasoned that it should be more effective in chronic staphylococcal osteomyelitis. This is obviously a very difficult point to establish, particularly in view of the availability of very active new orally absorbed penicillinase resistant penicillins. Some very simple experiments performed by a medical student in my laboratory last year, indicated that most antibiotics "penetrate" into the bone just as well as *lincomycin.* Our own feeling is that these "penetration" studies are not very revealing.

We do not stock lincomycin in the formulary of the University of Virginia Hospital since we believe that we have more active antistaphylococcal agents in the new penicillins and cephalosporins. On the other hand, we do recommend trial in patients with chronic osteomyelitis who are allergic to the penicillins and require long term oral antibiotic therapy, provided that the organism is sensitive to this agent. Probably the same could be said of staphylococcal infections in patients with cystic fibrosis. We have no objection to its use in office practice as an alternative to erythromycin.

A new chlorinated derivative of lincomycin is now undergoing clinical trial. It is better absorbed than the parent compound and may well replace it. We welcome this improvement, but see no reason to change our current thinking about the drug at this time.

The New Penicillins.—The semisynthetic penicillin revolution has truly provided us with some important new agents. *Methicilin,* the first major development, remains our very best parenteral antistaphylococcal compound. Resistant strains have been reported in a number of centers in this country, but are not thus far a major problem. *Vancomycin* or *cephalothin* are the best alternative drugs for patients with life threatening staphylococcal infection. Methicillin should only be used for penicillinase resistant staphylococci. It is effective against many other gram positive bacteria, but only when used in large doses. It is destroyed by acid and therefore should not be given orally, nor in a slow intravenous drip. Adults with serious infection are treated with 6-8 grams per day by intravenous or intramuscular injection.

A number of orally absorbed penicillinase resistant penicillins are now readily available. These include *nafcillin, oxacillin, cloxacillin* and *dicloxacillin.* These are fairly equivalent agents and all are potentially useful for staphylococcal infection. We stock cloxacillin in our hospital formulary since it produces the highest concentrations of "free" or unbound drug in serum after oral administration. All of these analogues are highly bound to serum albumin, and at any one point in time, only the free drug is available for antimicrobial activity. We do

not recommend their use for infections other than for staphylococci since they are less active and usually more expensive than penicillin G or V.

Dicloxacillin is the most recent of these to be placed on the market. It is the most highly bound of the series and tends to be retained in the blood, thereby producing very high levels. This finding has led the manufacturers to market it in lower dosage forms than the other analogues. I believe that this is unfortunate since most of the drug, even though observed at high serum concentrations, is probably in the bound or inactive form.

Ampicillin has had a remarkably successful entry into the market. It is not a truly broad spectrum drug like tetracycline or chloramphenicol, since it is ineffective against rickettsiae, mycoplasma and the Bedsonia (Psitticosis lymphogranuloma venereum type agents). Its main value is in pediatric practice where ears and meninges may be infected with the pneumococcus, group A streptococcus, *Hemophilus influenza* or meningococcus. It is also of value in patients with chronic bronchitis as an alternative to tetracycline, and in urinary infections. It is useful in typhoid fever and other Salmonella infections. It is no panacea, particularly in urinary infections because of development of resistance by the gram negative rods usually found in urine. *Hetacillin* is for all intents and purposes virtually the same drug as ampicillin and offers little, but a new name.

Cephalosporins. — We now have two cephalosporin derivatives available for parenteral use. These are cephalothin and *cephaloridine*. These drugs are virtually interchangeable. Cephaloridine is somewhat more active and persists for a longer time in the blood after injection and appears to be less painful on injection. High doses of cephaloridine have been reported to be associated with nephrotoxicity, but this should not be a problem if doses do not exceed the recommended limit of 4 grams per day.

The cephalosporins are second line drugs to be used after the penicillins in patients who are allergic to penicillin. Cross sensitivity between these groups of drugs occasionally occurs. Cephalosporins have a spectrum resembling *ampicillin* (with minor exceptions in that they are not effective against enterococci, but seem more active against Klebsiella). They are, for the most part, penicillinase resistant and can be used for "resistant" staphylococci. My main argument with the manufacturers revolves around the promotion of these drugs. The ads and detail men seem to be saying, "Look Doc, if your patient is seriously ill, and you don't know what is wrong, don't think, use our drug". This may be an over reaction on my part to what appears to me to be overzealous promotion. These are really useful drugs, but no drug can substitute for careful evaluation of the patient's problem.

An orally absorbed cephalosporin, *cephalexin* is being clinically tested. This should be a valuable addition to our therapeutic armamentarium if it proves to be effective.

The Polymyxins.—Colistin (polymyxin E) has been around for some time, but it may be useful to remind clinicians that it differs little from polymyxin B. Its therapeutic index, that is, ratio of toxicity to efficacy seems to be similar to that of polymyxin B. We believe that its use should be almost entirely restricted to Pseudomonas infection and as interchangeable with polymyxin B. It is not an innocuous agent and may cause nephrotoxicity and marked neurotoxicity. Do not use it for simple problems.

Some New Agents, Not Yet Licensed.— Gentamycin is the most interesting of a series of new agents. It is closely related to *kanamycin* which remains exceedingly effective in gram negative infections. Gentamycin offers the opportunity to have another agent which works against many, but not all strains of Pseudomonas. Its main toxic side effect is severe vestibulitis when given

in excess doses in patients with impaired renal function.

Carbenicillin is another one of those British developed semisynthetic penicillins. It has some activity against Pseudomonas, but tremendous doses are required. Its main importance is to indicate that we may someday have an effective new penicillin for this very troublesome organism.

Lysostaphin is an enzyme manufactured by some staphylococci. It is a peptidase which lyses staphylococcal cell walls whether or not the organisms are multiplying. In experimental infections, it has marked and rapid action. The problem with this agent is that it is a protein and may elicit hypersensitivity on repeated dosage. I believe that it may well have a real place when given as an initial dose to reduce large populations of staphylococci in serious infections. Antibiotics such as *methicillin*, *vancomycin* or *cephalothin* could then perhaps be used more effectively.

Fixed Combinations. — Fixed combinations of antimicrobial agents will not be considered in detail in this presentation. They offer very little to the therapeutic armamentarium, may be more costly to the patient, increase the possibility of side reactions, restrict flexibility in dosage and give a false sense of security. The sooner these are abandoned, the better off we will be.

Thoughts of a Consultant in Infectious Disease.—Physicians are being subjected to extremely heavy promotion of a bewildering variety of useful antimicrobial agents. Because of inadequate bacteriological facilities, the often difficult problem of distinguishing benign viral illness from potentially life threatening bacterial infection and pressure from patients, antimicrobial agents are used far more frequently than would appear necessary to the academic eye. I am particularly disturbed by the continued widespread use of usually inappropriate, prophylactic agents in surgery and the neglect of the use of the gram stain which so often reveals the offending agent in pus. We should never seem to preach to the over burdened physician, but offer the best council available. I hope that this brief presentation will prove helpful.

Generic and Brand Names

Tetracycline—Achromycin(R), Tetracyn(R), Sumycin(R), Panmycin(R), Tetrachel(R)

Oxytetracycline—Terramycin(R)

Chlortetracycline—Aureomycin(R)

Demethylchlortetracycline—Declomycin(R)

Methacyline—Rhondomycin(R)

Doxycycline—Vibramycin(R)

Tetracycline with Amphotericin B—Mysteclin(R)-F

Tetracycline with Nystatin—Terrastatin(R)*, Tetrastatin(R), Achrostatin(R), Tetrex(R)-F

Lincomycin—Lincocyn(R)

Erythromycin estolate—Ilosone(R)

Novobiocin—Albamycin(R), Cathomycin(R)

Triacetyloleandomycin—Cyclamycin(R), Tao(R)

Vancomycin—Vancocin(R)

Cephalothin—Keflin(R)

Cephaloridine—Loridine(R)

Methicillin—Staphcillin(R)

Nafcillin—Unipen(R)

Oxacillin—Prostaphlin(R)

Cloxacillin—Tegopen(R)

Dicloxacillin—Dynapen(R)

Ampicillin—Polycillin(R), Principen(R), Omnipen(R)

Chloramphenicol—Chloromycetin(R)

Colistin—Colymycin(R)

Polymyxin B—Aerosporin(R)

Gentamycin—Garamycin(R)

Fixed Combinations—Too numerous to mention

* oxytetracycline and nystatin

An Overview of Cancer Chemotherapy

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THE CHEMOTHERAPY OF CANCER is not a recent development. Approaches were made as early as 1898 to control cancer with various types of chemicals, some of which were very toxic. The modern era of chemotherapy began during the Second World War when the accident at Bari Harbor,[1,2] provided clinical evidence of the effect of mustard on the hematopoietic system. During that same decade, the development and utilization of various steroids gave us another chemotherapeutic weapon. However, the management of solid tumors with chemotherapy did not develop until the advent of the antimetabolite agents in the 1950's, so this is still a comparatively young therapy.

Development and Selection of New Drugs

There are three primary approaches to selecting new agents:

1. Synthesizing chemical "relatives" of known active drugs
2. Screening any chemical submitted to determine if it has anti-tumor activity
3. Combining agents with different mechanisms of action.

The majority of the drugs tested are given to small animals with transplanted tumors to determine if the drug has any tumor effect. Two animal tumors, Leukemia 1210 and the Walker 256 sarcoma, are the most widely used tumor screens.[3] If an agent is active, it is then studied for toxicity in larger animals, including primates. All this information is collected, and a decision is then made as to whether or not a trial in human malignancy is indicated.

This entire effort is usually a cooperative one between private industry and the National Cancer Institute or other agencies.

Studies in Human Malignancy

The value or lack thereof can only be determined by evaluating the drug in human malignancy.[4,5] The phases of study are as follows:

Phase I—primarily a study of drug toxicity associated with an evaluation of anti-tumor effectiveness.

Phase II—A more detailed study of the anti-tumor activity in a larger number of patients with a specific tumor. Hopefully this will provide statistically significant information as to whether or not a drug deserves further evaluation.

Phase III—This is a comparison of a successful drug in Phase II studies with a known effective agent, such as nitrogen mustard, to determine excellence of one over the other.

As can be seen, a new agent can fail in any phase. Only if it succeeds in all three phases is it added to the list of active compounds; then it may be effective in only one tumor, e.g. phenylalanine mustard in myeloma with minimal effect on other tumors.

Types of Active Compounds

The majority of active compounds can be classified by mode of action. Five main categories exist:

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I—Hormones—steroids, androgens, estrogens

II—Antibiotics—dactinomycin, mithramycin

III—Antimetabolites—6-mercaptopurine, methotrexate, 5-fluorouracil

IV—Alkalyating Agents—nitrogen mustard

V—Plant Derivatives—the vinca alkaloids: vincristine and vinblastine

The chemical basis of activity of each is the pattern for development of new agents such as has been previously discussed. Some compounds are in clinical use that have other modes of action, but the majority can be categorized as above. This is helpful in predicting toxicity.

Success of Chemotherapy

Surgery and radiotherapy remain the best available therapy for malignant disease. For disseminated disease and in conjunction with either surgery or radiotherapy, chemotherapy can play a significant role. Choriocarcinoma,[6] disseminated Wilms' Tumor in children,[7,8] Ewing's Sarcoma, leukemia,[9] lymphoma, and myeloma[10] are examples of tumors that do respond to these drugs and, in small numbers, are cured. Therefore, chemotherapy should always be considered when management is determined.

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with other hospitals, while others had the physical facilities, but only allowed physicians to use these facilities by appointment. A few were hospitals caring primarily for patients with chronic illnesses and did not open their emergency facilities to the community. Thus, the final data were tabulated from the questionnaires returned by 53 hospitals.

In addition to using the questionnaire, we visited ten hospitals and reviewed the charts of approximately 100 patients who had died within 24 hours after being seen in the Emergency Room. In extracting information from the patients' charts, we used the "Trauma Audit", a form developed by Dr. Spencer Snedecor, Committee on Trauma, American College of Surgeons. This allowed evaluation of six general areas of emergency care: (1) recording, (2) laboratory and x-ray, (3) medical staff present, (4) diagnosis, (5) treatment, (6) autopsy and staff conference. While visiting these hospitals, we talked with administrators, doctors, and nurses and had the opportunity of determining how well the questionnaire had actually reflected the emergency departments' status.

Results

Tables I, II, and III provide some of the basic data in this study. More information is available but not tabulated and will be put forth in the following discussion.

Discussion

Over one-half (59%) of the patients seen in emergency rooms did not have a medical problem that constituted a true emergency, and this figure is consistent with the findings of other studies.[2,3] The increase in the elective use of the emergency room can be attributed to one or more of the following: (1) faster service, (2) lower cost, (3) availability of x-ray and clinical laboratory facilities, (4) insurance coverage, (5) increased mobility of a population without a primary physician, (6) the tendency of physicians to seek regular office hours and discourage house calls, (7) patients' reluctance to take time off from work, and (8) better overall medical care. There is no reason to believe that this trend will not continue to increase in the future and many large institutions are planning or have already opened elective evening clinics to deal with this growing patient load.

The responsibility for the administration

Table I

Separate E.R. and O.P.D.	33%
Non-emergencies seen in E.R.	59%
Emergency Room Committee	53%
No. of months since last meeting—2	
Average no. of meetings per year—8	
Review of trauma cases	18%
E.R. open 24 hrs.	98%
Laboratory and x-ray 24 hrs.	100%
Radiologist available 24 hrs.	80%
E.R. Policy Manual	57%
Laboratory, x-ray, E.R. on same floor	77%
Staffing of E.R.	
Area M.D.'s on call	88%
Permanent salaried M.D.'s	18%
Specialist coverage	86%
Dentist on call	77%
Clerical staff	59%
Percentage of patients admitted	15%
E.R. is financially self-supporting	28%
Standard E.R. fee	96%
E.R. fee less than area M.D.'s fee	51%
Percent of bills paid	61%

Percentage figures represent the proportion of the hospitals surveyed that have a specific policy or facility.

Table II

Disaster plan	98%
Trial run	80%
No trial run	18%
Specific policies for treating dog bites	73%
Adequate tetanus immunization	86%
Poison cart available	61%
Whole blood available	94%
Plasma available	84%
Fibrinogen available	80%
X-rays after fracture reduction	86%
Procedures for minor surgery	
Gloves	90%
Hand scrub	71%
Masks	37%
Gloves and masks	37%
Reason for transfer of patients	
No specialist available	77%
No specialized equipment	53%
Inadequate space	16%

of the emergency room and the establishment of policy was usually either in the hands of a single physician or hospital administrator or governed by an emergency room committee. The former arrangement frequently resulted is misunderstandings among services and the hospital administration; physicians had no equitable way of appealing inconsistent policy, and the nursing staff was often caught in the middle of these disputes. In the 53% of hospitals that did have an emergency room committee made up of representatives of the medical, nursing and administrative staff, the committees' function was to establish policy and resolve recurrent problems. To accomplish this, most committees met every two months.

The group of hospitals with emergency room committees had three times as many conferences to review trauma cases as those hospitals without a committee and were more likely to have specific policies regarding tetanus immunization and the treatment of burns and dog bites. Decision making over the telephone by nurses in these hospitals was less frequent and specialist coverage for emergency care was more adequate. Direct supervision of the emergency room resided with such a committee in 78% of hospitals. Obviously, the presence or absence of a committee had little effect on the actual practices of individual physicians in the Emergency Room. We believe that Emergency Room Committees are needed by all hospitals to help meet the existing problems and those that will present themselves in the future; such a committee is best suited to establish policies and practices which are agreeable to the staff and administration as well as being in the best interest of the public they serve.

The financing of emergency rooms is a difficult area to investigate, because 67% of the hospitals questioned do not have separate outpatient and emergency facilities; consequently, many patients are using the emergency room as an outpatient clinic. This may, in part, be reflected in the large number of elective patients seen in the Emergency Room.

Twenty-eight per cent of the hospitals stated that their emergency rooms were financially self-supporting. It is notable (Table III) that the collection rates for non-self-supporting emergency rooms and self-supporting are almost identical. Hospitals with non-self-supporting emergency rooms are in general larger than the self-supporting group, and this suggests that inadequate emergency room fees, laxity in charging for materials used or other inefficiencies may be responsible for an emergency room being in the non-self-supporting category. The average emergency room fee of $4.50 in Virginia was undoubtedly not derived from careful administrative cost accounting. It would also seem possible in many cases to increase the average collection rate of 61% by careful repetitive billing.

Table III

	Self-Supporting E. R. (28%)	Non-Self Supporting E. R. (72%)
Fee collection rate...	64%	61%
Average number of beds.....	150	198
Average number of E. R. visits.....	9,978	12,098

An emergency room standard operating procedure manual was used in 57% of the hospitals and was most frequently found in those institutions with emergency room committees. In smaller institutions with a relatively stable staff and a short line of communication, policies and procedures are well known, but in many hospitals there were great differences of opinion on the part of physicians, nurses, and administration regarding the role of the emergency room in the community and the policies to be established. While an emergency room manual is not a textbook of medicine, it can standardize and improve the care given by many types of physicians particularly in the areas

of tetanus immunization, thermal burns, animal bites and critically ill patients with multiple injuries.

The staffing of emergency rooms engendered more discussion and concern than any other area investigated. All but one of the hospitals employed some type of physician rotation, and these schedules in many instances were exceedingly complicated. Each hospital had designed its schedule keeping in mind two objectives: providing the patient with rapid care yet easing the burden imposed on the physician. In a few cases, the physicians' type of practice and distance from the hospital influenced these rotations. In 18% of the hospitals, permanently salaried physicians were running the emergency room very effectively. These physicians were well informed and in general rendered a better quality of medical care than the doctor working in the emergency room once every two or three weeks. Many hospitals are planning to use this system in the future and are actively recruiting physicians.

In a few hospitals, the concept of a group practice in the emergency room has been tried but dropped, usually because of a lack of cooperation from other physicians in the community.

Nursing staff coverage for the emergency room also presents a dilemma: the hours of greatest patient load often found the emergency room with the fewest nurses. Nurses were frequently taken out of the emergency room to work in other areas of the hospital and were replaced by personnel who had never been exposed to the concepts of emergency care. The increased burden of paper work further decreased the time nurses had to spend with patients, and all too often the physician on the other end of the telephone asked the nurse to make a decision that was his responsibility to make.

More realistic staffing of the emergency room at busy hours, the training of nurses in other parts of the hospital in emergency care, along with the establishment of training programs for practical nurses and the addition of clerical help should solve some of these problems.

Emergency rooms in general were well equipped. Many of the hospitals were relatively new and had x-ray and laboratory facilities on the same floor as the emergency room. Equipment and instruments in a few hospitals were handed down from other patient care areas, while six hospitals had a sizable investment in equipment purchased by the administrative staff that had never been used. In several institutions, equipment could not be used because it did not fit in with existing equipment or because it was almost impossible to get service when it did not work.

The common shortcomings of the physical plant were: (1) inadequate patient waiting facilities, (2) lack of storage space for ambulance equipment, wheelchairs, and stretchers and, (3) inadequate desk space for clerical help.

The data obtained from the "Trauma Audit", that is our attempt to determine the adequacy of patient care by reviewing the charts of all patients dying within 24 hours of admission to the emergency room, is very sparse. The reason for this is that in most cases the emergency medical records contained little or no usable information.

Many emergency room forms did not have enough space to write the history and physical findings, while others had no place to record x-ray reports or laboratory data, some of which were never recorded or buried inaccessibly in the depths of the patient's chart. Few had space for doctors' orders with a column for the nurses initials and time when these orders were carried out. All but one of the forms lacked a check list for materials used or given to the patient.

Vital signs, histories, physical examinations, diagnoses, and laboratory data were not available in any portion of the patient's chart in a high percentage of cases.

The few common shortcomings in treat-

ment were: (1) intravenous fluid replacement was started very late in the patient's emergency room stay, (2) blood and fluid volume replacement was frequently insufficient, (3) burn and head injury patients being sent to other institutions received little if any initial care, (4) central venous pressure measurements were rarely, if ever, used as an index of the adequacy of volume replacement, (5) fractures were not splinted for extended periods of time, (6) in spite of the availability of x-rays, few were taken between 7:00 p.m. and 8:00 a.m. to confirm a suspected diagnosis, and (7) staff conferences to review trauma deaths were virtually non-existent.

Albeit, the shortcomings noted were based on general impressions, this type of a study does point to the need for better medical forms and records in the emergency room.

Summary

We feel that in view of the ever increasing load placed on emergency rooms, certain changes must be made to offer the public adequate emergency care. Hospital emergency facilities are no longer being used only to treat acute accident victims as in the past, and this has given rise to many new problems. At this point, in time we may question whether present facilities should be expanded to meet the increased needs or whether the emergency facilities should act as a triage center that quickly refers patients to other areas for definitive treatment. This time is here when we should start talking about emergency departments and not emergency rooms, a concept that has been stated by Dr. Robert Kennedy on many occasions.

At present, hospitals should establish active emergency room committees composed of representatives of the medical, nursing, and administrative staffs and set forth policies and guidelines for treatment in a standard reference manual. Administrators should reevaluate fee schedules, collection systems, and cost accounting systems in the emergency room. Community hospitals should give serious thought to the staffing of emergency facilities with full-time salaried physicians and physicians involved in emergency care should feel responsible for being proficient in the treatment of trauma patients and staying abreast of advances in this field. More autopsies and staff review of trauma cases should be a part of every hospital's teaching program. Nurses and ancillary medical personnel from departments other than the emergency room should be trained in emergency care and procedures, so that effective help will be available in case of a disaster.

Finally, hospital planning for the future should take into account the increasing importance of emergency services and coordinate efforts on an areawide basis with all public and private interests using these services.

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Clinicopathological Conference . . . .

Pain in the Leg in a Child

Prepared and Edited by

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Clinical History

A ten year old white male was admitted to the Medical College of Virginia Hospitals on May 29, 1967, because of pain in the upper right tibia of nine days duration. The boy had been completely asymptomatic until May 21, 1967, at which time he began to complain of soreness in the upper aspect of the right tibia. The following day he began to walk with a limp and refrained from running and playing at school. He complained of increasing tenderness of the upper tibia and for that reason was seen by his local physician who had x-rays made which showed an area of periosteal and cortical erosion at the postero-medial aspect of the upper tibia. The mother said the child had had some enlarged glands about six weeks prior to this hospital admission but that these glands had subsided with the use of antibiotics. There was no antecedent history of trauma.

Physical examination revealed a well developed, well nourished, alert and cooperative 10 year old white male. BP 108/76, T. 99.6° (orally), R. 20, P. 90. Examination of the head and neck revealed some slight redness of the tonsillar crypts but there was no cervical lymph node enlargement and no detectable lymphadenopathy elsewhere. The lungs were clear to percussion and auscultation. Heart was normal. Abdomen was flat and soft and no organs or masses were palpable. Neurological examination was within normal limits. There was a normal range of motion of all joints of both lower extremities but there was definite localized tenderness over the medial aspect of the upper third of the right tibia. The right calf measured 3/8 inch greater in circumference than the left.

Laboratory data: Urine was yellow, clear and acid with specific gravity of 1.028. Protein, sugar and acetone were negative. Microscopic examination of the urinary sediment was normal. Hemoglobin 13.5 grams percent, white count 10,250 with 63 percent neutrophils, 35 percent lymphocytes, and 2 percent monocytes. Sedimentation rate 13 mm/hr. Stool and urine cultures were negative. Serum calcium 10 mg. percent, serum phosphorus 4.6 mg. percent, serum alkaline phosphatase 5 Bessie-Lowry units.

X-rays of the right tibia showed slight periosteal irregularity and cortical roughening at a point 4½ inches below the articular surface of the tibia on the postero-medial aspect of the tibia.

The patient was taken to surgery on May 30, 1967.

Clinical Discussion

Dr. Wirt Davis: Today we have the case of a 10-year-old white male with a nine day history of pain in the upper tibia, just below the right knee. The patient has been limping and has restricted the use of this extremity because of the pain. He has tenderness just below the knee and his local physician made x-rays which were interpreted as showing periosteal elevation and cortical erosion in the postero-medial aspect of the upper tibia.

The past history given by the mother was that six weeks prior to this admission there were some enlarged lymph nodes present and the patient was given antibiotics. Where the enlarged nodes were located, we do not know. There is no history of trauma prior to this time. Examination of the boy failed to reveal evidence of any chronic or wasting disease. He is well developed, well nourished, with a slight temperature elevation (99.6° orally); some redness of the tonsillar crypts but no lymph glands were enlarged in the neck or elsewhere. Heart and lung examination was negative. Examination of the joints showed normal motion of all joints and the neurological examination was negative. Examination of the right leg below the knee showed localized tenderness over the medial aspect of the upper third of the right tibia and the right calf measured 3/8 inch greater in circumference than the left. This points our attention to the region below the knee, right leg with an enlarged circumference. We do not know if there were any dilated vessels over this area, but I gather from the description that it was generalized enlargement, rather than one specific area of enlargement. The lab work showed that the urinalysis was normal, hemoglobin 13.5 gm% (this is important I think), white count was normal with 63% neutrophils. At age 10-12 60% is considered upper normal for neutrophils but this is not enough to excite one. Sedimentation rate is normal. The calcium, phosphorus, and alkaline phosphatase are also normal. The x-rays of the right tibia show slight periosteal irregularity and cortical roughening 4½ inches below the articular surface of the tibia on the postero-medial aspect of the tibia. If we can see the slide of the x-ray.

Dr. M. Pinson Neal: The findings as described are, at best, hard to see when you have the films in your hand. Cooperation between the orthopedic surgeon, radiologist and pathologist is needed to come up with the right diagnosis and outcome. In looking at this extremity, notice the calf. It is a little more dense than it should be. To make a gross comparison we should have a film of the opposite extremity. In a child with this degree of nutrition you can see the subcutaneous tissues. We should see more fat interposed between the muscle bundles. This is obliterated. I don't see a discrete mass as you might think with a neoplastic mass, rather I think of edema in this area. This is an enlarged view of the tibial area. I hope you can see to some degree that the cortical margin is sharp. In an adjacent area it is lost (Fig. 1). An enlarged view in the lateral projection again shows a sharp cortical border adjacent to a fuzzy and hazy area. In teen-agers and adults, the inner osseous membrane affects this cortical margin and this faintness, indistinguished irregularity is a normal thing, just like the



Fig. 1. Film showing slight cortical roughening of tibial margin adjacent to the fibula.

posterior aspect of the femur. The degree of change in this age group however does take on some importance. In the older person it is not important. Radiographically there are several considerations which I will enumerate. One is traumatic periostitis with associated edema; early periosteal fibrosarcoma and osteogenic sarcoma are things we would have to consider from the radiologic findings. The soft tissue changes are more of the edematous reaction than a discrete neoplastic mass.

Dr. Moon: If this child were 16 years old you wouldn't pay much attention to the periosteal change would you?

Dr. Neal: Correct. Also I would get a film of the other extremity to verify this minor change.

Dr. Davis: In discussing the possibilities I would first like to mention that an unrecognized fracture might give you an unusual picture even though we have no history of trauma. I do not see any fine lines indicating fracture of a few weeks prior to this and I don't see any exuberant callus. This seems to be more of a periosteal reaction with some involvement of the long area of the shaft of the tibia and cortical region.

Under tumor certainly we would have to consider osteogenic sarcoma. The age group would be 10-25 years and it is more often seen in males than females . . . approximately two to one. The region of the knee is the most common site: the distal-femoral metaphysis and proximal tibia. These x-ray changes are in the diaphysis or shaft. Osteogenic sarcoma is usually in the metaphysis but it can occur in the diaphysis and this should be remembered. Dahlin in his series of 3,987 bone tumors of which 650 were osteogenic, had 214 in the distal femoral metaphysis, 93 in the proximal metaphysis of the tibia, 11 mid-tibia, 29 mid-femur, and three mid-fibula. With osteogenic sarcoma we would expect a history of a few weeks of pain and swelling, pain being the first symptom with rapid progression of the pain. Lameness is often seen and this was mentioned in the protocol. If the area of involvement is close to a joint then there should be pain in that nearby joint. The alkaline phosphatase should be elevated approximately twice normal and we do not have that in this case. In looking at the x-rays we do not get the impression that there is intramedullary involvement. You would expect to see this in osteogenic sarcoma. There is no "sun-burst" change on the x-ray indicating new bone formation, sub-periosteal in its location. I would mention next, cortical osteogenic sarcoma to remind you that this occurs in an older age group and the location of the tumor would be attached to the cortex and projecting into the soft tissues.

Adamantinoma is mentioned because it is typically in the shaft. In Dahlin's series there were six adamantinomas in the mid-tibial shaft region. The age group is adolescent or young adult so that would fit as far as this child is concerned, but the x-ray of this lesion is a trabeculated rarefaction and often with expansion of the bone contour. That is not present in our case. Eosinophilia granuloma is also mentioned because of the age group and involvement of the shaft. This would be within the substance of the bone rather than on the periosteal cortex.

Ewing's sarcoma we have to consider strongly. Age group for Ewing's is usually during the first three decades, being highest in instance during the second. Dahlin, in his series, places Ewing's tumor as fourth in frequency. Myeloma is first, osteogenic sarcoma is second, chondrosarcoma third. Of 210 cases in Dahlin's series, 54 were in the femur, 20 in the tibia, 19 in the humerus, 13 in the fibula, three in radius and three ulna. The innominate bone and long tubular bones account for most of the cases . . . but it should be remembered that Ewing's tumor can occur in any bone in the body. Typically Ewing's tumor is in the shaft of the bone. I would expect a history of localized pain of some months duration.

You may have lameness because it is located near a joint and limited use of that extremity because of the pain. In Ewing's you expect fever, anemia, leucocytosis, and sedimentation rate elevation. In this patient we have a low grade fever but no leucocytosis or sedimentation rate elevation. Mentioned in the protocol were some enlarged glands which disappeared with antibiotic treatment. If we have enlarged glands, with Ewing's sarcoma, we would not expect them to disappear. The x-ray appearance in Ewing's is often described as "onion-skin", multiple layers of new bone formation around the shaft. It is claimed that this is seen in a minority of the cases of Ewing's and that the sunburst appearance is more common.

I have not considered metastatic disease primarily because of the appearance of the x-ray. I see no localized area of involvement of the bone. Osteomyelitis would be the final category that I would consider. We had the history, six weeks before admission, of infection, enlarged glands, which responded to antibiotics. We know that if a patient is given antibiotics we may have a masked infection; x-ray changes may be delayed in their normal time of appearance. There is certainly a possibility of this in this case. Osteomyelitis in the shaft is unusual. Osteomyelitis is typically in the metaphysis.

We are left with osteomyelitis producing the changes we saw on the x-ray with elevated periosteum, roughened cortex, and some change in the soft tissue of the calf. I might say that even though I think it is probably osteomyelitis, I still think it would have to be biopsied because it is unusual.

Dr. Moon: Thank you, Dr. Davis. The pathology today is to be presented by Dr. Frable.

Pathological Discussion

Dr. William J. Frable: Before we present the pathology I would ask Dr. Davis how he would approach this patient assuming that he is going to do a biopsy. Whether he would consider a needle biopsy, whether he would ask for frozen section, and what the general approach to this case would be.

Dr. Davis: Because of the long area, I would do an open biopsy.

Dr. Frable: Would you ask for a frozen section?

Dr. Davis: I would.

Dr. Frable: Would you use tourniquets? Supposing it was a sarcoma, would you then go ahead and amputate?

Dr. Davis: No. I wouldn't until I got a final answer.

Dr. Frable: This is a rather short protocol . . . as is often the case with bone lesions. Eventually, with the cooperation of the clinician, radiologist, and pathologist, the case resolves to a number of diagnoses from which one cannot progress further without some kind of definitive approach to the lesion. The dialogue between the clinician, pathologist and radiologist prior to tissue examination is important to avoid a disaster. In this case, with the x-ray findings it is possible to resolve the diagnosis to osteomyelitis vs. a bone sarcoma of which the two most popular would appear to be Ewing's sarcoma and osteogenic sarcoma and I think Ewing's would have to be put first of those two. The biopsy in our case proved to be osteomyelitis.

The pathology of osteomyelitis usually begins in the metaphysis, (but in this case it is somewhat further down in the shaft) in an area of good vascularity close to the area of growth, the epiphysis. The organism is principally the Staphylococcus unless the child is under two years of age when it appears to be Streptococcus. The femur, tibia, and humerus and radius are the most frequent bones involved, in that order.

In hematogenous osteomyelitis, the lesion begins as an inflammatory process of the marrow space. There is an infiltrate of acute inflammatory cells and thrombosis of small

blood vessels. This increases the pressure within the marrow space forcing the exudate up toward the periosteum which is elevated. This elevation of the periosteum appears to impair its blood supply and stimulates the formation of new bone. This is what you see on the x-rays: some periosteal elevation and some spicules of new bone formation. (Fig. 2)



Fig. 2. Elevation of periosteum and new bone formation in osteomyelitis. H & E x 25.

This is a general pathologic reaction and a tumor which begins in the marrow space and grows out toward the periosteum produces the same thing. Ewing's sarcoma in particular will produce this finding.

In the differential diagnoses, but not likely in this age group, is primary lymphoma of bone. The pathologic difference between primary lymphoma of bone and Ewing's sarcoma may be slight. Lymphoma of bone characteristically lacks areas of necrosis and it never has the fibrovascular framework which seems to accompany Ewing's sarcoma. The cells of primary lymphoma are less uniform than in Ewing's sarcoma.

The other major differential diagnosis is an osteogenic sarcoma. The gross features of osteogenic sarcoma are a solid tumor growing in the marrow space, perforating the cortex and causing periosteal elevation. The histology is pleomorphic sarcomatous tumor with malignant osteoid; that is osteoid imbedded very characteristically between malignant tumor cells in very small clumps and groups. This material will calcify occasionally providing tumor bone formation in osteogenic sarcoma. The diagnosis in our case is a fortunate one of osteomyelitis.

I will call your attention to the options that are available when confronted with a bone lesion. Two types of biopsy can be done. Close needle biopsy, when one can get at the lesion without having cortical bone interference. The trauma is minimal and it is useful in diagnosing bone sarcoma as well as in getting material for culture if osteomyelitis is under consideration. Open biopsy is a major decision in any bone lesion. A certain amount of trauma is involved. The pathologist and radiologist should be consulted to help obtain the best material for diagnosis, which is usually the soft material, not the bony material. Frozen section may be done at the time of open biopsy. This pathologist appreciates having the x-rays in hand and the clinical story before interpreting the frozen section.

Dr. M. Pinson Neal: Obviously the lesion in question was picked up very, very early and the adequate and detailed description that Dr. Davis and Dr. Frable gave are for lesions involving the bone that are most identifiable. The x-ray findings in osteomyelitis show a 10-12 day delay period. This is often forgotten and it is extremely important. Where the clinical findings are that of osteomyelitis, don't wait for the x-ray appearance to present itself. We keep emphasizing this. There may be a negative x-ray when the disease is fulminating already.

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THE SUPER DIURETICS—WESTERVELT

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Warnings—Watch for the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism, retinal thrombosis); if present or suspected discontinue the drug immediately.

British studies reported in April 1968[1,2] estimate there is a seven- to tenfold increase in mortality and morbidity due to thromboembolic diseases in women taking oral contraceptives. In these controlled retrospective studies, involving 36 reported deaths and 58 hospitalizations due to "idiopathic" thromboembolism, statistical evaluation indicated that the differences observed between users and non-users were highly significant. The conclusions reached in the studies are summarized in the table below:

Comparison of Mortality and Hospitalization Rates Due to Thromboembolic Disease in Users and Non-Users of Oral Contraceptives in Britain.

Category	Mortality Rates		Hospitalization Rates (Morbidity)
	Age 20-34	Age 35-44	Age 20-44
Users of Oral Contraceptives	1.5/100,000	3.9/100,000	47/100,000
Non-Users	0.2/100,000	0.5/100,000	5/100,000

No comparable studies are yet available in the United States. The British data, especially as they indicate the magnitude of the increased risk to the individual patient, cannot be applied directly to women in other countries in which the incidences of spontaneously occurring thromboembolic disease may differ.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or sudden onset of proptosis, diplopia or migraine. Withdraw medication if papilledema or retinal vascular lesions are found.

Since the safety of Ovulen in pregnancy has not been demonstrated, it is recommended that pregnancy be ruled out for any patient who has missed two consecutive periods before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the first missed period.

A small fraction of the hormone agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—Pretreatment physical examination should include special reference to the breasts and pelvic organs, and a Papanicolaou smear.

Endocrine and possibly liver function tests may be affected by Ovulen. Therefore, it is recommended that such tests if abnormal be repeated after the drug has been withdrawn for two months.

Pre-existing uterine fibromyomas may increase in size under the influence of progestogen-estrogen preparations.

Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation.

In breakthrough bleeding, and all irregular vaginal bleeding, consider nonfunctional causes. Adequate diagnostic measures are indicated in undiagnosed vaginal bleeding.

Carefully observe patients with a history of psychic depression and discontinue the drug if severe depression recurs.

Any possible influence of prolonged Ovulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study.

A decrease in glucose tolerance has occurred in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be observed carefully while receiving Ovulen.

Because of the effects of estrogens on epiphyseal closure Ovulen should be used judiciously in young patients in whom bone growth is not complete.

The age of the patient constitutes no absolute limiting factor, although Ovulen therapy may mask the onset of the climacteric.

The pathologist should be informed of Ovulen therapy when relevant specimens are submitted.

Adverse Reactions—A statistically significant association has been shown between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: cerebrovascular accidents, neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement, secretion), change in weight, changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, allergic rash, rise in blood pressure in susceptible individuals, mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme and nodosum, hemorrhagic eruption, itching.

The following laboratory results may be altered by oral contraceptives: hepatic function: increased sulfobromophthalein and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test; pregnanediol determination.

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Mr. Alton McCoy, Acting Director
Massanutten Mental Health Center
420 E. Main Street
Harrisonburg, Virginia 22801

Patrick H. Drewry, Jr., M.D., Director
M.C.V. Psychiatric Clinic—Box 253
Medical College of Virginia
Richmond, Virginia 23219

Joan Meiller, M.D., Director
Memorial Guidance Clinic
3001 Fifth Avenue
Richmond, Virginia 23222

Dietrich W. Heyder, M.D., Director
Mental Health Center of Norfolk and Chesapeake
401 Colley Avenue
Norfolk, Virginia 23507

Frank A. Scott, Ed.D., Acting Director
Mountain Empire Guid. Center, Inc.
710 Clement Street
Radford, Virginia 24141

Bruce M. Gray, M.D., Director
Northwestern Psychiatric Clinic
Rouss and Loudoun Streets
Winchester, Virginia 22601

H. Marjorie Sloan, M.D., Acting Director
Patrick Henry Mental Hygiene Clinic
15 Cleveland Avenue
Martinsville, Virginia 24112

T. J. Lassen, M.D., Director
Peninsula Mental Health Center
420 J. Clyde Morris Blvd.
Newport News, Virginia 23601

Tony A. Tsitos, M.D., Director
Prince Wm. Co. Community Men. Health Clinic
223 Peabody Street
Manassas, Virginia 22110

Eugene Makarowsky, M.D., Director
Richmond Area Psychiatric Clinic
209 W. Franklin Street
Richmond, Virginia 23220

John Carlton, M.D., Director
Roanoke Guidance Center
1125 First Street, S. W.
Roanoke, Virginia 24016

Bernard H. Kasinoff, M.D., Acting Director
Rockbridge Mental Health Clinic
300 White Street
Lexington, Virginia 24450

Kurt Morbitzer, M.D., Director
Southside Area Mental Hygiene Clinic
12 E. Tabb Street
Petersburg, Virginia 23803

Catherine Smith, M.D., Director
Smyth County Mental Health Clinic
124 Broad Street
Marion, Virginia 24354

Ann Stewart, M.D., Director
Tidewater Mental Health Clinic
427 Nicholson Street
Mailing Address: P. O. Box 838
Williamsburg, Virginia 23185

Leo E. Kirven, M.D., Acting Director
Tri-County Mental Health Clinic
Louise Obici Memorial Hospital
Suffolk, Virginia 23434

R. W. Garnett, Jr., M.D., Director
Mental Health Clinics
Box 267, University of Virginia Hospital
Charlottesville, Virginia 22901

Bernard H. Kasinoff, M.D., Director
Valley Mental Health Center
20 N. Market Street
Staunton, Virginia 24401

Woman's Auxiliary . . . .

Wise County Won

. . . the coveted George D. Feldner Award Cup for the best overall Doctor's Day observance, regardless of membership, in 1968. This award was presented by the Woman's Auxiliary to the Southern Medical Association at the convention in New Orleans. Mrs. William C. Terral, New Orleans Doctor's Day Chairman, presented the Feldner Award Cup to Mrs. W. Nash Thompson of Stuart, Virginia, for the Woman's Auxiliary to the Wise County Medical Society and Virginia's Councilor to the Woman's Auxiliary to the Southern Medical Association. The Guy Smith Kirby Trophy for the second best total observance was received by Mrs. Robert H. Stewart of Sedalia, Missouri, or the Woman's Auxiliary to the Pettis County Medical Society. Both trophies were filled with the Doctor's Day flowers, red carnations. Most sincere congratulations for this high and richly deserved award are extended to the Woman's Auxiliary to the Wise County Medical Society.

A Sense of Concern . . .

. . . and moral obligation was left with those attending the "Special Workshop On Children And Youth" toward the children of today and the citizens of tomorrow. We were there to listen and ask questions. The theme was "Opening Channels of Communications Between the Generations". Mrs. Robert D. Keeling, President, welcomed the auxiliary members and asked them to take home specific ideas and translate them into action for the young people in our communities.

The Reverend Doctor Richard F. Perkins, Executive Director TRUST, Richmond, brought us to the "Barriers and Gateways to Communication" and subsequently modderated the youth panel comprised of six Virginia youths, Catherine Sue Brooks, Park View High School, South Hill; Francis W. Jenkins, Jr., Lancaster; Cotton Marker, First Colonial High School, Virginia Beach; Eric Slade, Armstrong High School, Richmond; Linda Smith, Huguenot High School, Richmond; Ronnie Woodson, Armstrong High School, Richmond. Dr. Perkins encouraged the auxiliary members to participate in enumerating some gaps in communication such as: generation, language, time, attitudes, etc., and felt the gateway to communication would be opened when the tendency to evalulate and clarify was put aside. He felt that each should truly look at the other point of view and gave us a recipe for settling differences. The first party must be able to state the second party's viewpoint to the satisfaction of the second party, and vice versa, assuming there are only two parties.

The youth panel barred no holds and told of youth's resentment against the adult tendency to group teenagers, of adult infallibility and the lack of intercommunication. The youth use and abuse of drugs and alcohol were attributed to pressure, to be with the "In" group, to have a new experience or thrill and finally to get attention *from their parents.* The panel felt laws were too severe and outdated; that the problem should be treated more as an illness.

The moral standards and information were more often gotten from "the crowd". Parent permissiveness was felt to be at the root of this problem; consequently crime and lawlessness arising from their freedom and mobility. Many can stay out late at night and have their own car or one available. Pressure was the second factor again mentioned and finally just for the excitement—the kicks.

The adult response was guided by Mrs. M. Pinson Neal Jr., Youth Program Chairman, who arranged for this eyeopening, informative program. Trooper Patrick Gur-

ganis of the Virginia State Police was concerned with the automobile as a misused instrument. The youths have greater skill, but assume daredevil attitudes, which make them potentially more dangerous behind the wheel.

Mr. Robert Horan, Commonwealth Attorney from Fairfax County, cited adult capitulation or permissiveness as allowing this problem of drug abuse to develop. The youth lack of information and even worse are misinformed! Mr. Horan totally rejected the argument of teens turning to drugs because of pressure. Pressures are always with us—all of us!

Dr. George Bright, Department of Pediatrics, Medical College of Virginia Adolescent Medicine, told the audience that the youths feelings were guided by pressure, example, friends and looking for new experiences and thrills. Formerly parents and the church handled sex education. Now adults are putting aside that responsibility. The youths are struggling to find their identity in this world of ours and they need to have standards set for them. After the age of ten limitations only are inadequate and they must have reasons and realistic rules set. Unacceptable behavior patterns arise from wanting to hurt the parent and at the same time to receive security. Dr. Bright told us the youths need facts given in the proper perspective which should include and negate "old wives tales," bring knowledge about venereal disease, teach them about normal and abnormal behavior patterns and counsel them on marriage and family planning.

Mrs. Nancy Vananan, Director of Christian Education Bon Air School for Girls gave two examples. One a girl from a good middle class family and the second girl had been shifted from foster home to foster home. The similarity between the two girls showed neither in secure context to learn to express themselves. The family instability in both cases was a prime factor.

Where do we go from here? The conclusions drawn from this workshop were for adults and youth to begin to *involve*, *communicate* and *understand* each other. Youths are discontent with superficial relationships with adults. We adults must listen to them, their problems, not let them come home to empty homes after school—*we must be there.*

Methods of application drawn from this workshop would be to:

1. Examine and evaluate your specific problems.
2. Investigate community resources and possibly bring into being counselling facilities.
3. Plan positive social programs for a specific group such as a high crime-rate area. Examples: homemaking classes—transport the youth and possibly include free lunches; sex education for women etc.; form groups to be Big Sisters to girls in trouble.
4. Evaluate the programs and begin again.

The purpose of this workshop was to make everyone aware of the problems and give them some tools with which to begin. Possibilities are limitless and the time is now!

Editorial . . . .

Medicine at the University of Virginia

THE MATERIAL in this issue of the Virginia Medical Monthly was prepared by members of the faculty of the Medical School of the University of Virginia and assembled by Dr. John A. Owen, Jr., with the aid of Dr. Shelton Horsley, III, a member of the Editorial Board of the journal. This University of Virginia number appears just six months after the Norfolk issue which occasioned a great deal of favorable comment.

It is anticipated that Norfolk will prepare a second full-length number for the readers of the Virginia Medical Monthly this summer. It is also expected that the Medical College of Virginia will participate in a similar presentation of material prepared in that institution. Thus far MCV has not found it possible to complete the trilogy, for their outstanding *Medical College of Virginia Quarterly* has doubtless occupied the attention of the editorial board but we anticipate that we will hear from them later this year.

Meanwhile the journal is airborne thanks to Norfolk and Charlottesville. The VMM is very grateful to Dr. Owen for his interest and aid.

H. J. W.

Cool It, Son, Cool It

Some articles write themselves. This is one of them. A recent resolution prepared by Dr. Thomas W. Murrell, Jr., retiring president of The Medical Society of Virginia, was passed by the Richmond Academy of Medicine and adopted by the Council at the State meeting in Roanoke last fall. It was as follows:

> "Resolved: we the delegates to the annual meeting of The Medical Society of Virginia, as responsible citizens, urge our fellow citizens in every walk of life to dampen the fires of anger so that the light of reflection and thought may help us to find our way and so that that concern, which should animate not only every physician in the care of patients but every man in his dealings with his neighbors, may compel

us to better relationships with one another, and so that we may seek in good faith to see and discuss together our differences and to do our work through those systems and institutions which in the past have brought about the growth of our country."

Recently The Medical Society of Virginia was urged to become a sustaining member of the Student American Medical Association. Twenty-three state societies contribute to this organization; perhaps we were remiss in not doing so. There is a chapter in one medical school in Virginia. With these thoughts in mind the September issue of *The New Physician,* official publication of the SAMA, was read with more than passing interest. It appears that a new student editorial staff has taken over this journal and its purpose is outlined, in part, as follows:

"The task of this new editorial staff will be nothing less than a revamping of The New Physician. Their mandate to do this has been generated by widespread dissatisfaction with the journal as a means of educating, challenging, and communicating with members of SAMA on a national basis, and this mandate is strengthened by the radical intent of the 1968 House of Delegates and the Executive Council which it elected. By radical intent is meant the clear decision to return the control of the Student American Medical Association to an activist student leadership which is capable and ready to make SAMA, at all levels, relevant to student needs and opinions.

"The philosophy of the editorial staff vis a vis our much maligned national publication is fundamentally bound up in the concept of student enfranchisement in an educational-political system which is largely rigid and oppressive."

The first article in the September issue of *The New Physician,* prepared by the Executive Editor and captioned "The New Physician as Activist", further outlines the philosophy of these medical students.

"Student activism is only one facet of the spectre of revolution which haunts the Establishment. Yet the fact that it is beginning to touch upon the Medical Establishment in a significant way is perhaps most surprising and important. The physician, says Martin Gross in his well-documented book, *The Doctors,* has changed 'from a societal leader, intellectually and humanly . . . to a man of mediocre intellect, trade school mentality, limited interests, and incomplete personality—the contemporary Non-Renaissance Man.' If this is true, and it is to a very large extent, one must suspect that the nation's medical schools are major accomplices before, during, and after the fact.

"That medical schools seem expressly organized to stifle independent thought, limit student contact with the outside world, and channel the interests of their increasingly restless inmates through the application of a kind of intellectual straight-jacket of poorly-balanced expectations are no longer matters of serious debate among 'medical student activists'. Of course, all institutions which seek to socialize their heirs to the values which have maintained their social power employ the practices of isolation and rigid social control in their training. This is as true of medicine as it is of the primitive tribe and the US Army . . .

"That many students view their 'activist' colleagues with the annoyance and fear which is common to those who have been cowed and dehumanized by our educational institutions may be one indication that it is too late to change."

An article in the same issue entitled "Medical Student Admission, Attrition, and Activism" by Dr. Davis Johnson, Director of Student Affairs for the Association of American Medical Colleges, gives a little background on medical student "activism".

"At the national level, the Association of Interns and Medical Students was active from 1933 to 1951 when it was extinguished by the anti-communist fears that swept our country. Among the concerns of this Association were academic freedom, discrimination, international exchange, and the revision of medical education.

"Shortly after the demise of the Association of Interns and Medical Students, the Student American Medical Association (SAMA) was founded in 1952. Although this new organization was originally believed by many to be a pawn of the American Medical Association, it has gradually moved in the direction of student independence . . .

"At the medical school level, it was not until 1964 that large-scale student activism came into being. This has been spearheaded by the so-called Student Health Organizations, which started first in California and later became active in Chicago and New York. Thanks to generous federal funding and ample publicity, there will be student health projects this summer in eight different regions of the country. These projects may involve 5—10% of all US medical students as well as substantial numbers of students from the other health professions and from the minority groups."

About two-thirds of the material in this issue of *The New Physician* deals with similar articles and expresses similar ideas. Limitation of space

prevents further inclusion but one contributor waxed lyrical and we shall end on this high note. It may seem a little obscure but it should be read and re-read until its message comes through clearly.

"Turning and Turning in the Widening Gyre

Nat Turner, nameless son of night,
Stoking fires in calm waters.
Tides to swell rivers and lands there,
Tides of feelings welling and racing.
Deep black currents reign a quiet people
As Turner turns to them,
A leader now to rouse their swell.
Watts of power grip the saddened people,
A funnel reaches from the blackened sky and
Dark rip tides swallow women and children,
Their alabaster faces wet with bludgeon blood.

Nats are small black bugs that
On hot and muggy Southern days
Sometimes go berserk,
And fly and buzz until they land
In waxed whites of blinded eyes,
And that is irritation.
Some tears may flow but with a finger flick
That Nat is squelched and all that's left
Is a small dirty smudge.

A deep thirst stays unquenched.

Nat was a drop in the bucket.

David L. Upton"

The new physicians (actually medical students) evidently have not gotten the word expressed in the resolution adopted in Roanoke last fall. The writer, in turn, hopes that the members of The Medical Society of Virginia will also fail to get the word concerning a possible sustaining membership in the SAMA.

H. J. W.

News . . . .

Calendar of Events

Symposium of the Portsmouth Academy of Medicine—Infectious Diseases—Surburban County Club—Portsmouth—January 24, 1969.

Head and Neck Anatomy—The Alton D. Brashear Post Graduate Course—Medical College of Virginia—January 28-31, 1969.

Psychiatry in Medical Practice—The Stoneburner Lecture Series—Medical College of Virginia—February 20-21, 1969.

Annual Medical and Surgical Symposium of Watts Hospital—Durham, North Carolina—February 21-22, 1969.

Virginia Chapter, American Academy of Pediatrics and the Virginia Pediatric Society—Annual Meeting—Key Bridge Marriott Motor Hotel—Arlington—February 21-22, 1969.

Practical Radiology of the Skull, Spine and Central Nervous System—Sponsored by Department of Radiology, Medical College of Virginia—Williamsburg—March 4-8, 1969.

National Conference of Rural Health—Sponsored by American Medical Association—Philadelphia Marriott Hotel—Philadelphia, Pennsylvania—March 21-22, 1969.

Annual Post Graduate Day—Roanoke Memorial Hospital—Roanoke—March 27-28, 1969.

National Congress on Socio-Economics of Health Care—Sponsored by American Medical Association—The Palmer House—Chicago—March 28-29, 1969.

Annual Joint Cardiac Symposium—Sponsored by the Heart Association of Northern Virginia and Washington Heart Association—Marriott Twin Bridges Motor Hotel—Arlington—April 9, 1969.

Annual Convention—American Medical Association—New York—July 13-17, 1969.

New Members.

The following members were received into The Medical Society of Virginia during the month of December:

Gil A. Abeness, M.D., South Boston
David Roger Belevetz, M.D., Springfield
Alfons Busza, M.D., Richmond
Mehmet Nuri Cay, M.D., Fairfax
Alvin Jacob Ciccone, M.D., Norfolk
Walter John Farrell, Jr., Falls Church
Stanley Allen Goldman, M.D., Richmond
Mark Greenspan, M.D., Norfolk
Casual Donald Hammond, M.D., Charlottesville
Herbert Gladstone Hopwood, Jr., M.D., Arlington
Chin Moon Kim, M.D., Front Royal
Theopkilos Haralambos Kipreos, M.D., Richmond
Raymond Stanley Kirchmier, II, M.D., Richmond

Sherman Master, M.D., Richmond
Frederick G. Pierce, M.D., Richmond
Donald Eugene Sly, M.D., Norfolk
Barry Quentin Walker, M.D., Richmond
Charles Henry Watson, II, M.D.,
Falls Church
Herbert S. Weinshank, M.D., Fairfax

Dr. Reno R. Porter,

Richmond, has been named chairman of the Rehabilitation Committee of the American Heart Association. He will serve on the central committee which is responsible for making recommendations to the board of directors relative to the Association's programs of research, community service and public and professional education.

Dr. Hume Honored.

The Virginia Association of Professions has presented The Distinguished Service Award to Dr. David Milford Hume, Medical College of Virginia. The presentation is made by the Association to that professional man who has made the greatest contribution to the professions and his fellowman.

Dr. George Speck,

Alexandria, has been presented the Award of Merit of The George Washington University Medical Alumni Association at the annual meeting in Washington on November 22nd. He was cited "in recognition of his distinguished service and outstanding contributions for the field of medicine. Through his high academic achievements and scientific investigations he had rendered meritorious service to the Association and The George Washington University."

Dr. George J. Carroll,

Suffolk, has been elected vice chairman of the Executive Committee of the Southern Medical Association.

Medical Staff Members.

Dr. D. B. Jones, Wise, has been appointed chief of staff at Park Avenue Hospital. Dr. L. C. Strong, Norton, is assistant chief of staff; Dr. H. H. Howze, Norton, chief of surgery; Dr. J. H. Dellinger, Norton, chief of obstetrics and gynecology, and Dr. A. H. Bond, Norton, secretary.

Home Bedside Nursing Service

Local Health Departments in Virginia have broadened their services to include a program of intermittent bedside nursing care for patients confined to the home. It is hoped that this program will provide you with an adjunct, hitherto unavailable, which will help you to care for your patients, on some occasions without hospitalization and in others by shortening the hospital stay.

Home bedside nursing and ancillary services are available to all types of patients upon physicians orders, including acute, long-term, over 65, and under 65.

Your local health director is available to explain this program to you. Please contact him directly should more information be desired about the Home Health Services Program.

Stoneburner Lecture Series.

The twenty-second annual Stoneburner Lecture Series will be held at the Medical College of Virginia, February 20-21. The subject for this year is Psychiatry in Medical Practice and the program is as follows: Section I—Aspects of Communication in Medical Practice with Dr. Patrick H. Drewry, Jr., as chairman. Who, Why and How to Refer by Dr. Zigmund M. Lebensohn, Georgetown University, Washington, D.C.; What Referring Physicians Can Expect of the Psychiatrist by Dr. David R. Hawkins, University of Virginia, Charlottesville; and Recognition of Psychiatric Emergencies by Dr. John A. Ewing, University of North Carolina, Chapel Hill. Section II—The Family as a Factor in Medical Practice with

Dr. Douglas F. Powers as chairman. Family Tension and Psychophysiological Illness by Dr. Milton Rosenbaum, Albert Einstein College of Medicine, New York; Physical Illness, the Family and the Physician by Dr. Marc H. Hollender, University of Pennsylvania, Philadelphia; and Family Social Crisis, the Physician and Community Health by Dr. William W. Jepson, University of Minnesota, Minneapolis.

Section III will be on Psychophysiologic Conditions with Dr. F. Paul Kosbab as chairman. Psychiatric Issues in Therapeutic Abortion by Dr. Henry D. Lederer, Medical College of Virginia; Sexual Counseling in Medical Practice by Dr. George Kriegman, Medical College of Virginia; Surgical Intervention and Self-Identity by Dr. Stanley L. Block, Jewish Hospital, Cincinnati; and The Aged Patient by Dr. Ewald W. Busse, Duke University, Durham. Section IV—Psychosocial Management of Emotional Factors in Medical Practice with Dr. George Kriegman chairman. Community Resources—the Role of the Other Professionals by Dr. Luther Christman, Vanderbilt University, Nashville; The Physician's Role in the Assessment of Normal Behavior by Dr. Melvin Sabshin, University of Illinois, Chicago; and Psychopharmacological Procedures by Dr. Heinz E. Lehmann, McGill University, Montreal.

The Stoneburner Lecturer will be Dr. Douglas D. Bond, Chairman of the Department of Psychiatry of the School of Medicine, Case-Western Reserve University, Cleveland. On the 20th, his subject will be Perspectives in the Field of Behavioral Sciences and on the 21st, Changing Attitude Toward Mental Illness and Deviant Behavior.

EENT Office for Rent.

35,000 private case records available, will sell equipment cheap to renter, offices vacant. Write 1206-8 Colonial Bank Building, Roanoke, Virginia, or telephone 345-0319. (*Adv.*)

Wanted

Full time staff physician for Student Health Service at Virginia Polytechnic Institute, Blacksburg. For further information write or call Emory R. Irvin, M.D., Blacksburg, Virginia 24060. Phone 552-6444. (*Adv.*)

For Sale

One Picker 300 MA-125 KVP Generator, 1/30 second timer Centurian II Radiographic-Fluoroscopic table with 8 x 10—10 x 12 spot film device rotating anode tubes floor to ceiling tube stand. Price $3,500.00.

One Picker 200 MA-100 KVP Generator 1/20 second timer Centurian II Radiographic Fluoroscopic table 8 x 10—10 x 12 spot film device rotating anode tubes floor mounted tubestand. Price $1,500.00.

Apply to Sigmund Newman, M.D., 1220 East West Highway, Apt. 522, Silver Spring, Maryland 20910. (*Adv.*)

Position Wanted.

Dermatologist, board eligible, service completed, age 33, married, seeks solo, association, partnership, or group practice. Write #145, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituary ....

Dr. Joel Cutchins Rawls,

Franklin, died November 29 after a long illness. He was eighty-five years of age and received his medical education at the University of Maryland, graduating in 1909. Dr. Rawls practiced for a while in Florida but had been at Franklin for more than half a century. In addition to his practice, he was a sportsman and was a founder of the Tidewater Beagle Club. He was also one of the pioneers in breeding registered Guernsey cattle in Tidewater. Dr. Rawls was a fifty year member of The Medical Society of Virginia, having joined in 1913.

A brother survives him.

Dr. William Lloyd Mason,

Richmond, died November 19, at the age of seventy-nine. He was a graduate of the Medical College of Virginia in 1889 and then studied at the New York Eye, Ear, Nose and Throat Graduate School. Dr. Mason practiced in Richmond for more than fifty years before his retirement. He had been a member of The Medical Society of Virginia since 1913 and was a fifty year member.

His wife, a son, a daughter and three stepchildren survive him.

Dr. George Russell Maloney,

Chapel Hill, North Carolina, died October 30 after a long illness. He was seventy-five years of age and a graduate of the Medical College of Virginia in 1921. Dr. Maloney practiced in Richmond for twenty-four years and in 1949 he joined the staff of the VA Hospital in Fayetteville, North Carolina. He retired in 1963 and moved to Chapel Hill. Dr. Maloney had been a member of The Medical Society of Virginia for forty-three years.

His wife survives him.

Dr. Hedges.

Dr. Halstead Shipman Hedges, the first professor of Ophthalmology and Otolaryngology at the University of Virginia Medical School, died on September 10, 1968, at the age of 100 years. He was the oldest living graduate of the University of Virginia, and one of her most illustrious sons. He was the last member of the surgical team which operated on the day the University of Virginia Hospital opened in 1901.

Dr. Hedges was born in West Orange, New Jersey, and moved to Charlottesville at the age of ten. He attended Midway School, and entered the University of Virginia in 1886, where he played football and helped organize the rowing team. He received the degree of Bachelor of Arts in 1889, and in one additional session earned a Bachelor of Science and a Master of Arts degrees. He was admitted to the School of Medicine in 1891, and graduated with the degree of Doctor of Medicine in 1892. Dr. Hedges interned in the New York City Hospital and later at Orange Memorial Hospital in New Jersey. He served as demonstrator of Anatomy at the University of Virginia Medical School for four sessions. His decision for his life's work was then made—that of the relatively new specialty, the Eye, Ear, Nose and Throat. In order to equip himself for this branch of medical practice, he became a trainee in 1898, in the Manhattan Eye and Ear and Throat Hospital. The following year he opened his office for private practice in Charlottesville.

Up to the year 1895, instruction in medicine at the University of Virginia had been entirely theoretical, but in that year a brick dispensary was built on the plot of ground now occupied by the George Rogers Clark monument, and this marked the beginning of combined theoretical and practical instruction. In 1899, Dr. Hedges was made clinical instructor of Opthalmology and Otolaryngology under Dr. Paul Barringer. Thus, Dr. Hedges played a pioneering part in the transition from the strictly theoretical to the combined theoretical and practical instruction in the science and art of medicine at the University of Virginia. In 1905, he was made professor of Eye, Ear, Nose and Throat, and for a long time was the sole instructor. Later his department was divided, and Dr. Robert E. Compton was made the Professor of Ear, Nose and Throat, Dr. Hedges retaining the chair of Ophthalmology. From 1899 to 1939, he was a faithful, loyal and esteemed member of the faculty of the University of Virginia, and the outstanding character of his accomplishments in his

chosen field won for him membership in a number of learned societies.

He continued his private practice until 1960. Throughout his long career, Dr. Hedges investigated, taught and made many contributions to both medical and non-medical fields.

His interest in the outdoors and nature was lifelong. In the 1920's Dr. Hedges laid out a portion of the Appalachian Trail in the nearby Blue Ridge Mountains. His dexterity as a cobbler and a maker of bows and arrows is well remembered by his colleagues and friends. He was also a Biblical and classical scholar.

Dr. Hedges' robust accomplishments were once epitomized by Dr. Joseph Vaughan, professor of humanities at the University of Virginia, who stated: "Dr. Hedges is a man whose medical ability is matched only by his ability to outfish and outwalk all of his residents, and who can calmly lean back and quote the first half of Book I of the *Odyssey* in the original just for the pleasure of hearing Homer's thundering lines."

To all of us who knew and loved him, the memory of Halstead Shipman Hedges will remain a challenge and an inspiration.

We, the Members of the Albemarle County Medical Society, extend to his family our deepest sympathy and request that these expressions of our respect be included in the minutes of this meeting and that a copy be sent to the family and to the Editor of the Virginia Medical Monthly.

M. K. Humphries, M.D., *Chairman*
G. S. Fitz-Hugh, M.D.

Dr. Duncan.

Dr. George A. Duncan died suddenly on October 7, 1968. With his death, this area lost a distinguished orthopaedic surgeon and a dedicated physician.

Dr. Duncan was born in Weston, West Virginia, on October 22, 1903. Preliminary education was in the schools of Clarksburg, West Virginia. After graduating from the University of West Virginia in 1926 and from the University of Maryland Medical School in 1928, he interned at the University Hospital in Baltimore, then, served two years as resident in general surgery with Dr. Hugh Trout in Roanoke. Here, he developed an interest in orthopaedic surgery from his association with Dr. Roy Hoover, whom he greatly admired. He began his orthopaedic residency in 1931 at Dr. Hoover's Alma Mater, New York Orthopaedic Hospital, with Dr. Russell Hibbs and remained there until 1936. The years 1933-36 were spent doing research work on a fellowship. This resulted in the publication of papers which became nationally quoted references on their subjects, and, in his receiving the advanced degree of Doctor of Medical Science from Columbia University for his thesis on "Developmental Coxa Vara".

Dr. Duncan came to Norfolk to begin practice of orthopaedic surgery in 1936. This was interrupted by World War II. He served in the United States Army as Major and Lieutenant Colonel with the 45th General Hospital, sponsored by the Medical College of Virginia, in North Africa and Italy from 1942 to 1945, and, was awarded the Legion of Merit. After his return to private practice, his practice grew rapidly, but he still found time to contribute his great energies to many medical and community affairs.

Dr. Duncan was a member of many medical societies. He was past President of Norfolk County Medical Society, American Association of Bone and Joint Surgeons, Virginia State Orthopaedic Society and Hampton Roads Orthopaedic Society. He was, also, a member of the American Academy of Orthopaedic Surgeons, Russell Hibbs Orthopaedic Society, The Medical Society of Virginia, American Medical Association, Southern Medical Association and Mediterranean Surgical Society. He was a Diplomate of the American Board of Orthopaedic Surgery. In 1967, he was made an Honorary Member of the Norfolk County Medical Society.

He was active in hospital affairs and was a past President of the Staffs of DePaul and Norfolk General Hospitals, Director of Surgery at Norfolk General Hospital and a member of the Orthopaedic Staff of these hospitals, as well as, Leigh Memorial, King's Daughter's and Virginia Beach Hospital.

He gave freely of his time and energy to many interests in the community and State. He took a leading part in planning the move of DePaul Hospital to its present location and in the planning for and construction of the Medical Tower. He served for many years on the Medical Advisory Committee to the State Vocational Rehabilitation Commission. In recognition of this, and other work in rehabilitation, in 1957, he was persented with a Citation by the President's Committee on Employment of the Handicapped. From 1949 to 1953, he served, first as President and later as Chairman of the Board of the Virginia Medical Service Association (Blue Shield). He served as Civilian Orthopaedic Consultant and Lecturer to the Portsmouth Naval Hospital since 1947. A Consultant to one of the larger insurance companies for problem Workmen's Compensation Cases. He founded and conducted the State Crippled Children's Clinics in the two Eastern Shore counties.

In his practice, Dr. Duncan liked to keep busy and up until recent years carried a tremendous work load. Although, he saw large numbers of patients in his office, he worked with such dispatch, that he could, without seeming strained, always see more who

dropped in without appointments or who were left when his associates were called out on emergencies. He had an outgoing, magnetic personality that attracted many friends to him. He radiated so much vitality and forcefulness that his relatively short physical stature was not noticed and he created an impression of "bigness" on patients and doctors alike. Yet, to his associates in practice, he was a man easy to work with and one who used the Golden Rule as a guide in his relations with others.

Although, Dr. Duncan's professional achievements were considerable, he will be remembered by his former patients and associates, chiefly for his outstanding personal qualities. He had a genuine interest in, and appreciation of, others without regard to their economic or social position. All sorts of people, great and humble, young and old, referred to him as "My friend, Dr. (or George) Duncan". He had a special love for children and children responded to him. He had a great sensitivity and thoughtfulness for the feelings of others and an ability to put himself in "the other fellow's shoes". His kindness, cheerfulness and good humor could always be relied on. He was seldom critical of others and never depressed or complaining, even, after his forced retirement from practice in June, 1967, due to progressive physical disability. The reaction of all who knew him, even for a short time, was: "He was such a fine man." It can be said of Dr. Duncan, not only that he left the world a better place than he found it, but, that those who knew him were helped to be better persons by his example.

Dr. Duncan is survived by his widow, a daughter, and two sons, all of Norfolk.

Be It Resolved: that the Norfolk County Medical Society enter in its minutes these remembrances of Dr. Duncan and convey sympathy to his family.

Be It Further Resolved: that a copy be sent to his family, Norfolk General, DePaul and Leigh Memorial Hospitals, United States Naval Hospital, Portsmouth, Virginia, and the Virginia Medical Monthly.

George G. Hollins, Jr., M.D.
James L. Thomson, M.D.
Mallory S. Andrews, M.D., *Chairman*

Dr. Coleman.

When the older mountain folk gather up in the hollows of House Mountain and Buffalo Creek or reminisce around the stove at Rapp's Mill, they are apt to recall with a mixture of admiration, respect, envy, and pride the young man who left his native Collierstown after leading his class at nearby Washington & Lee and went off to a medical school in Richmond. From a stock that has produced some of the finest physicians and surgeons to practice in this part of the country, he was smart, enterprising, and aggressive. Yes, Phil was truly one of those Coleman boys.

Following his graduation from the Medical College of Virginia in 1931 and shortly after marrying Judith Van Sickler, he severed financial ties with his father's comfortable general practitioner's home in Rockbridge County and, in the midst of the depression, started out on his own. He practiced briefly as a coal camp doctor in Cabin Creek, West Virginia, and for the next four and a half years pursued general medicine in Stuart's Draft. His career then carried him on to training in general and thoracic surgery at the University of Michigan and the Cleveland City Hospital. Following this he practiced in Columbia, South Carolina, until he joined the Army Medical Corps at the beginning of World War II.

As Chief of Surgery in the 145th Evacuation Hospital, he was awarded the Bronze Star for service in the European Theater of Operations. Dr. Coleman also served as Chief of Thoracic Surgery at Brooke General Hospital in San Antonio and later in the same capacity in McGuire Army Hospital here. He then returned to private practice and became Associate Clinical Professor of Surgery at the Medical College of Virginia.

His students knew him as an untiring and thought-provoking preceptor with an unexcelled knowledge of surgical anatomy which he frequently reviewed in the dissecting rooms as well as the surgical amphitheater. His colleagues knew him as a master craftsman with surgical skill as keen as a No. 11 Bard-Parker blade. His patients knew him as a quiet, confident, reassuring doctor with judgment as cool and clear as the limestone water that runs in Collier's Creek. These faculties enabled him to maintain an aggressive approach in the treatment of malignancies and buttressed the awesome decisions every good clinical surgeon must make.

In addition to this Academy, Dr. Coleman was also a member of the Richmond Surgical, Virginia Surgical, and Southern Surgical Associations as well as The Medical Society of Virginia, Southeastern Surgical Congress, American Thoracic Surgical Society, and the American College of Chest Physicians. He was a Diplomate of the American Board of Surgery and a Fellow of the American College of Surgeons. He was quite active in the staff responsibilities of Richmond Memorial Hospital, furnishing particular leadership first, as Chairman of the Infection Committee, secondly, as Division Chief of Surgery, and finally, in 1965, as Chief of Staff.

Phil was a shrewd and successful businessman, as equally at home haggling good naturedly with a Rockbridge County farmer over the price of a country ham as bidding on a tract of pine timber. A crack shot, he rarely missed on a covey rise west of

the Blue Ridge or in the marshes of the upper Rappahannock and Potomac. He was a formidable foe at the gin table and especially enjoyed massaging the galloping dominoes in those rare interludes of uproarious good times that some of us are wont to enjoy. True enough he occasionally lapsed into some of man's frailties as if to prove that he was, after all, quite human.

In addition to his wife, he is survived by a son, Dr. Philip G. Coleman, Lt. Commander, MC, USNR, recently a battalion surgeon with the U. S. Marine Corps and currently serving in the U. S. Naval Hospital in Da Nang, South Vietnam, a daughter and four grandchildren.

THEREFORE, BE IT RESOLVED that a copy of these resolutions be spread upon the Minutes of the Richmond Academy of Medicine, and that the original be sent to his family as an expression of our sympathy.

HENRY P. ROYSTER, M.D.
HARRY J. WARTHEN, JR., M.D.
MERRITT W. FOSTER, JR., M.D., *Chairman*



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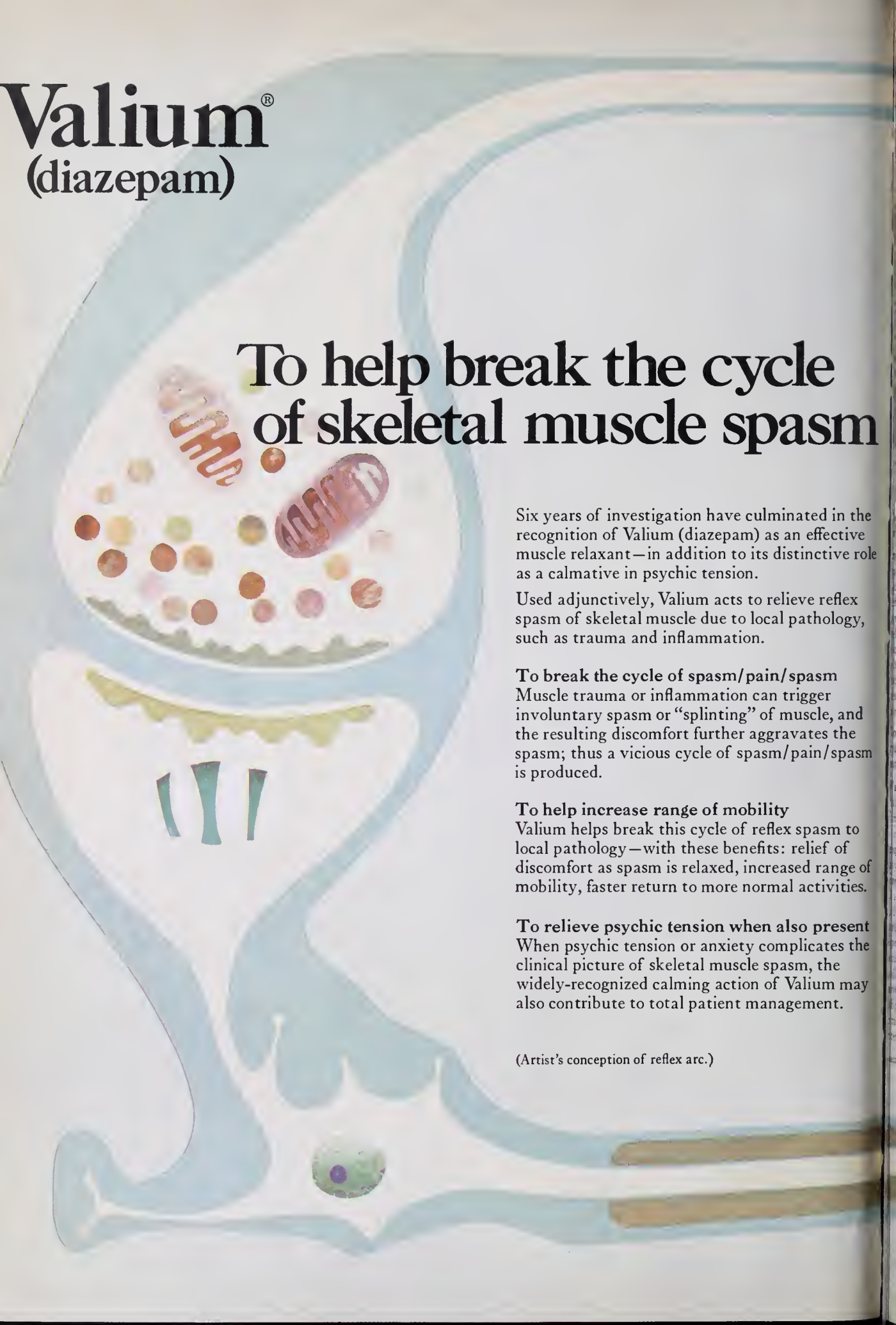
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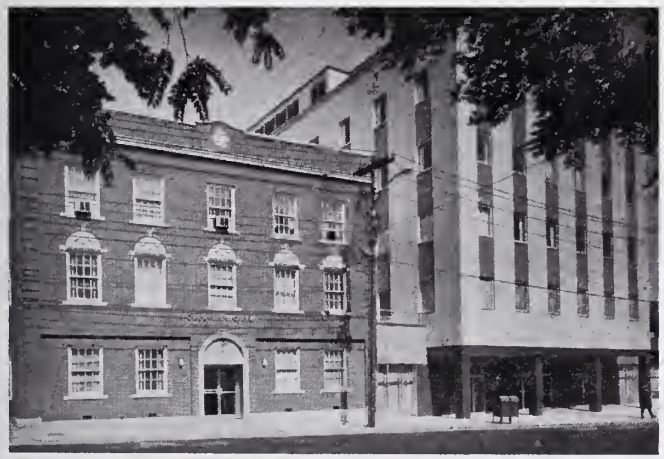
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Adverse Reactions: Ethoheptazine and aspirin may cause nausea with or without vomiting and epigastric distress, in a small percentage of patients. Dizziness is rare at recommended dosage. Meprobamate may cause drowsiness, ataxia and rarely allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses. Such patients may have had no previous contact with meprobamate and may or may not have an allergic history. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. If allergic reaction occurs, discontinue meprobamate; do not reinstitute. Severe reactions, observed very rarely, include fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. These cases should be treated symptomatically including, when indicated, such medication as epinephrine, antihistamine and possibly hydrocortisone. A few cases of leukopenia, usually transient, have been reported on continuous use. Rarely, aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported, almost always in presence of known toxic agents.

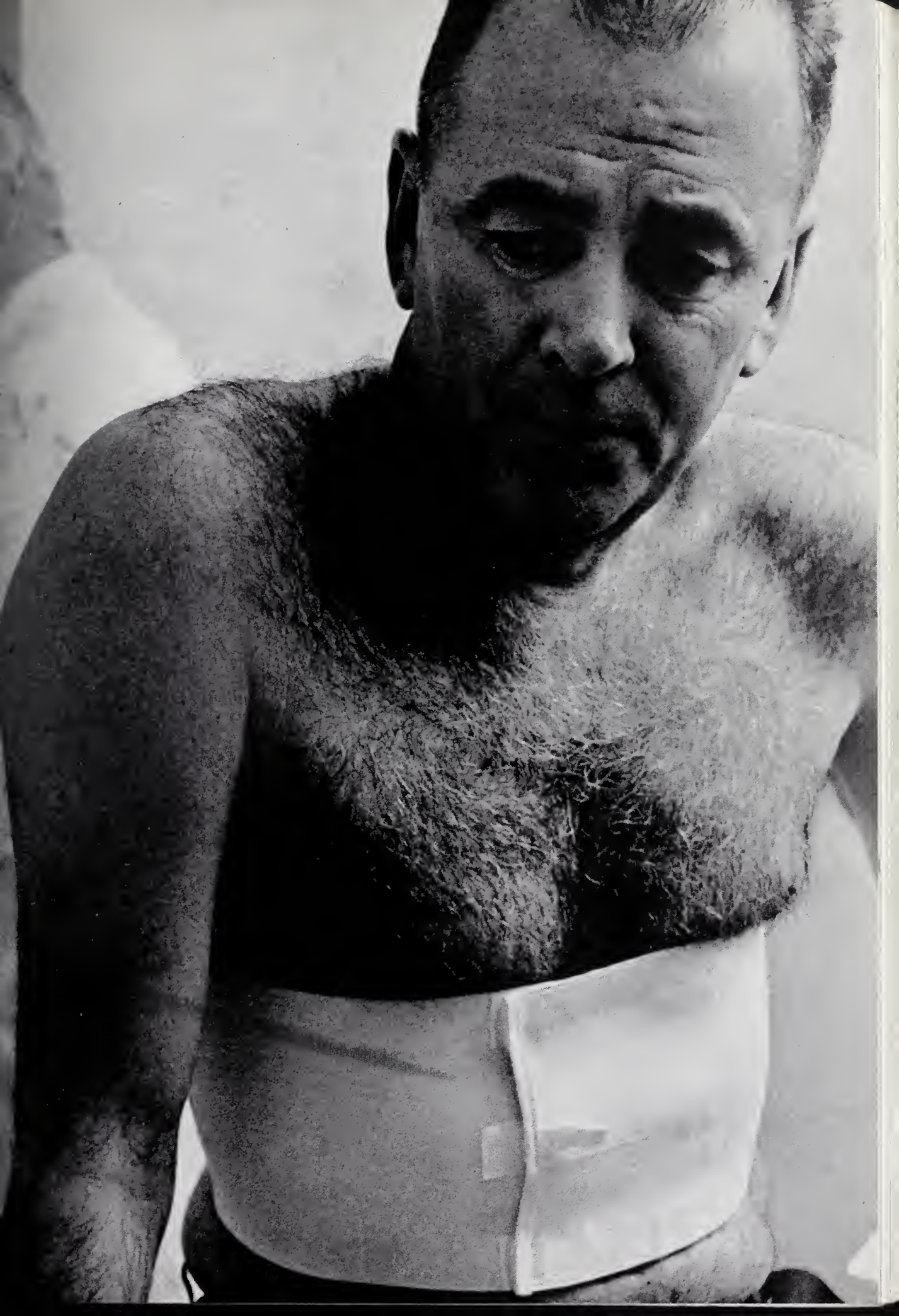
Overdosage: See precautions section for management of overdosage.

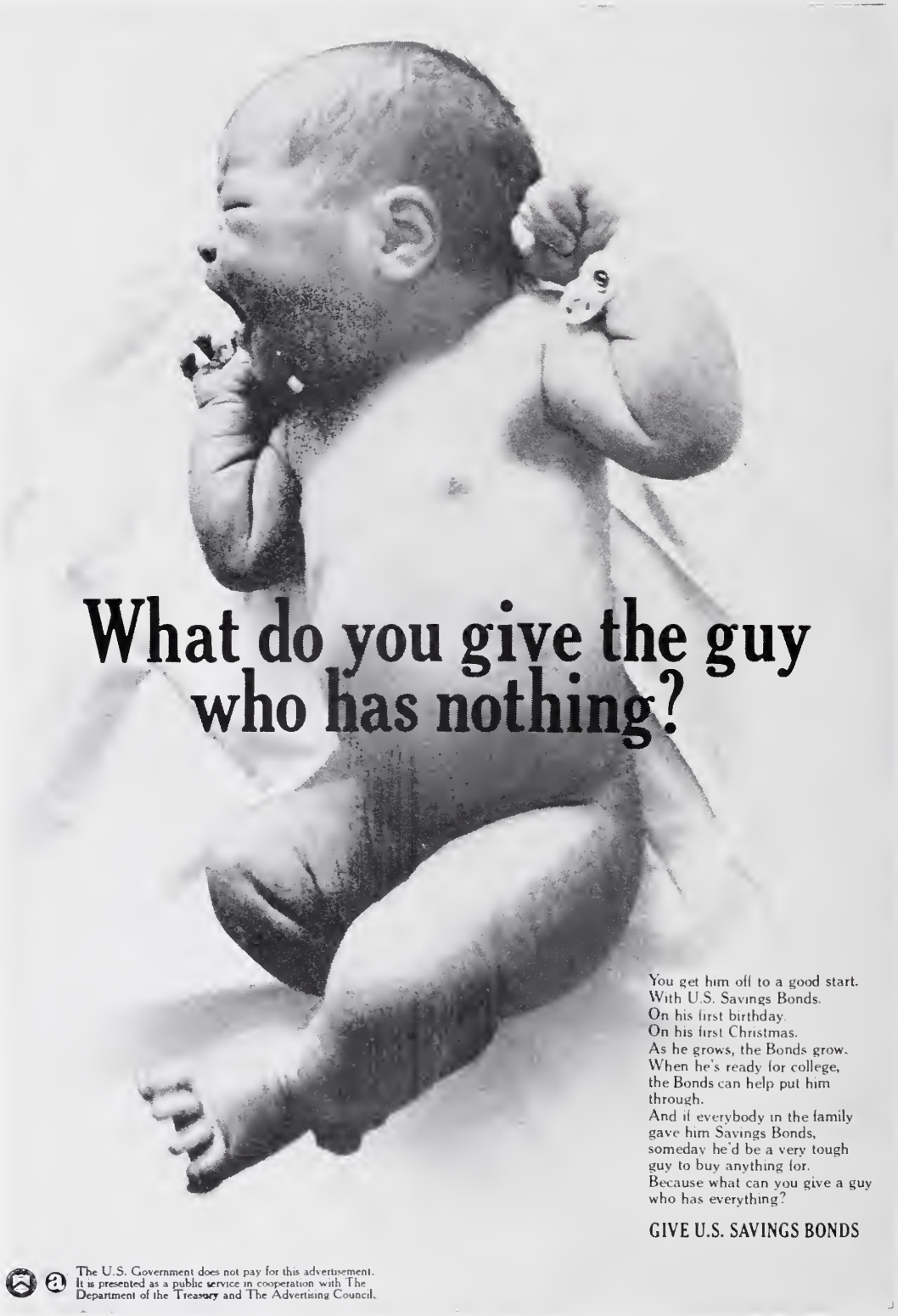
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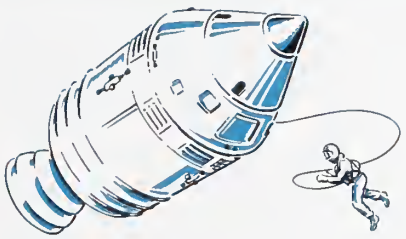
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Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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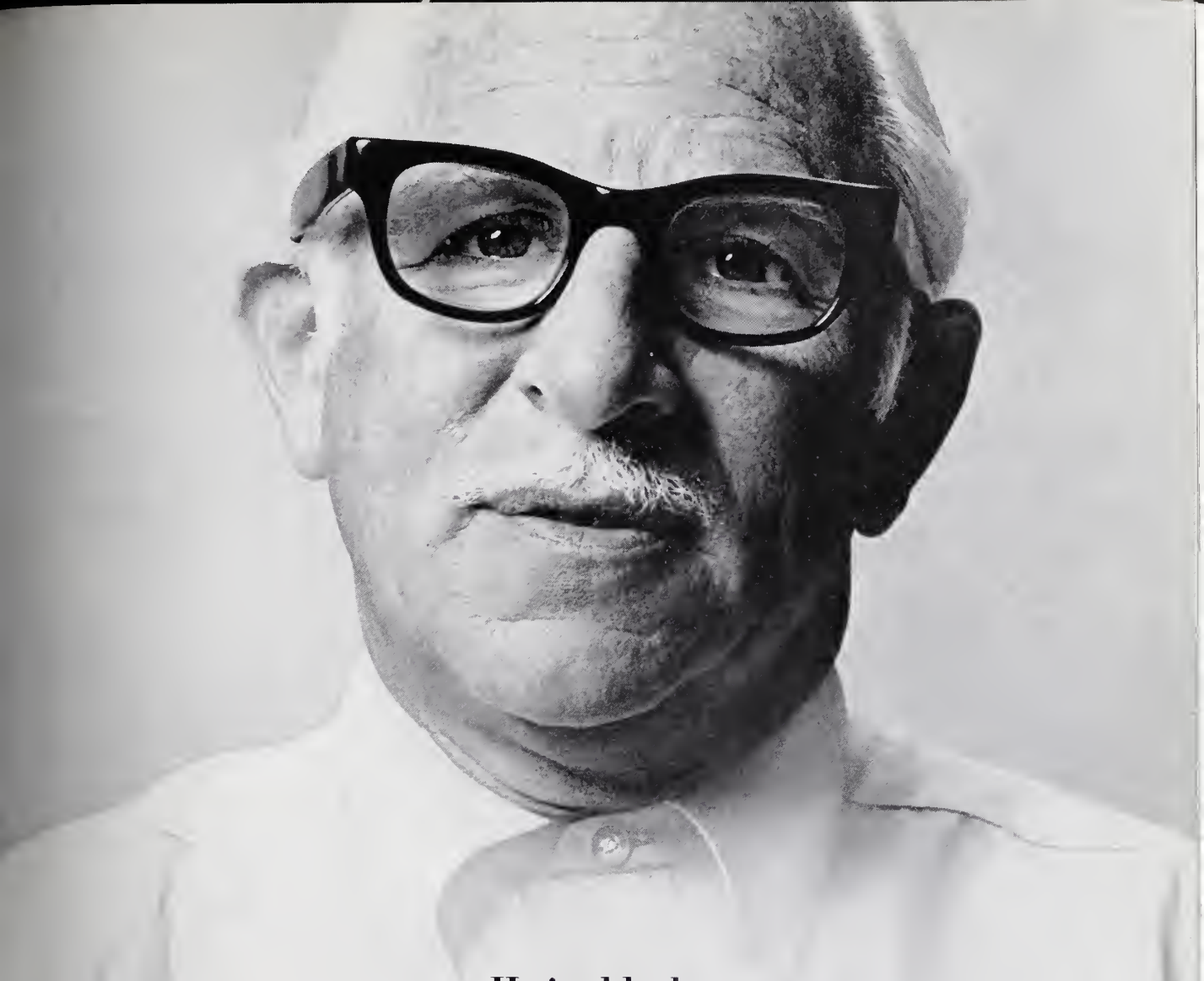
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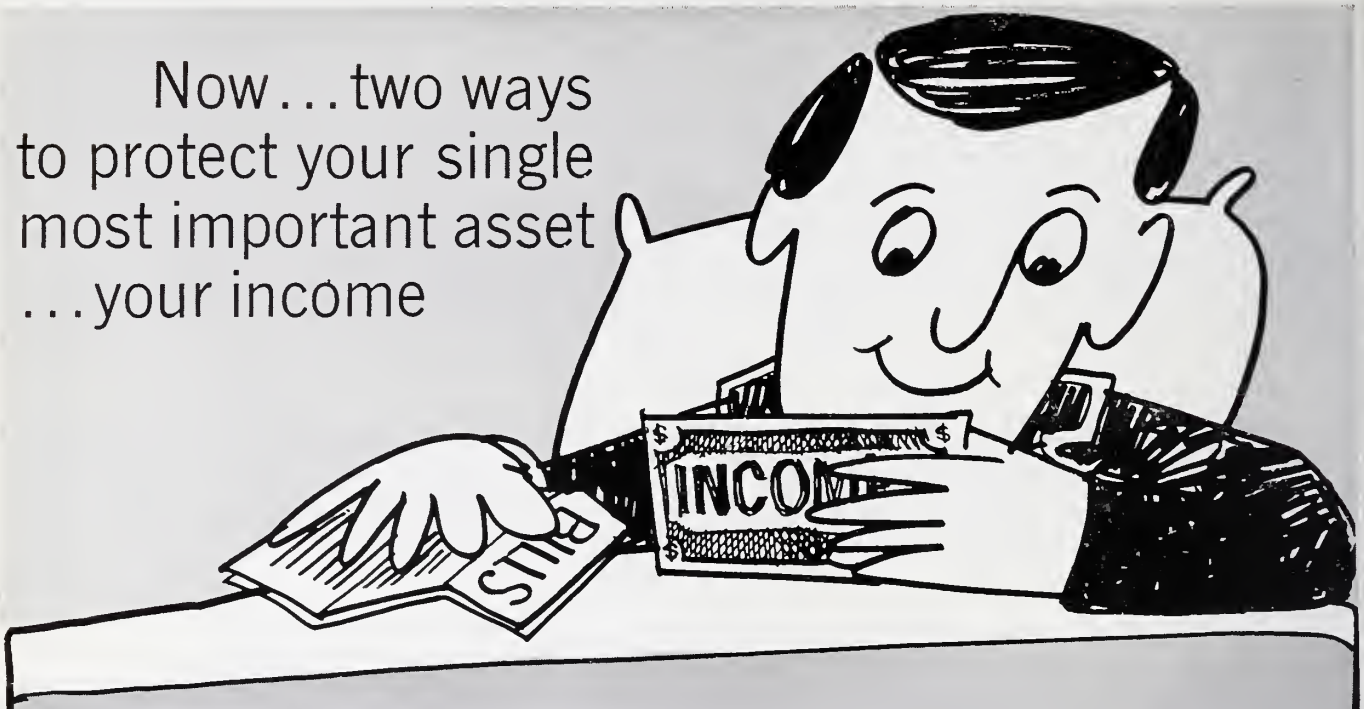
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Both of these Plans are sensibly priced because of your Association's sponsorship.
And either or both of them can go to work for you, today . . . if you call us now. Find out for yourself why your Society has selected these insurance plans as the best available to its Members. For more information, write or call collect. There is no obligation, of course.

Administrator, David A. Dyer
Medical Arts Building
Roanoke, Virginia 24011 Phone: 344-5000

Both Plans underwritten by

AMERICAN CASUALTY COMPANY
OF READING, PENNSYLVANIA



Ornade®

Prompt relief from nasal congestion and hypersecretion due to colds.

Before prescribing, see complete prescribing information in SK&F literature or *PDR*.
Contraindications: Glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction.
Precautions: Use cautiously in the presence of hypertension, hyperthyroidism, coronary artery disease; warn vehicle or machine operators of possible drowsiness.
Usage in Pregnancy: Use in pregnancy, nursing mothers and women who might bear children only when potential benefits have been weighed against possible hazards.
Note: The iodine in isopropamide iodide may alter PBI test results and will suppress I^{131} uptake; discontinue 'Ornade' one week before these tests.
Adverse Reactions: Drowsiness; excessive dryness of nose, throat or mouth; nervousness; insomnia. Other known possible adverse reactions of the individual ingredients: nausea, vomiting, diarrhea, rash, dizziness, fatigue, tightness of chest, abdominal pain, irritability, tachycardia, headache, incoordination, tremor, difficulty in urination. Thrombocytopenia, leukopenia and convulsions have been reported.
Supplied: Bottles of 50 capsules.

One capsule q12h for round-the-clock relief

Ornade® Spansule® capsules

Trademark. Each capsule contains 8 mg. of Teldrin® (brand of chlorpheniramine maleate); 50 mg. of phenylpropanolamine hydrochloride; 2.5 mg. of isopropamide, as the iodide.

brand of sustained release capsules

Smith Kline & French Laboratories SK&F



introducing an anticostive* antacid

*Avoids constipation.

an antacid formulated especially for the constipation-prone patient

- Gelusil-M has been formulated to help avoid constipation in these patients: hospitalized/bedridden/debilitated/sedentary/pregnant/elderly/on a bland diet/on anticholinergic-antispasmodic drugs/when straining at stool should be avoided.
- Magnesium content helps maintain intestinal fluid volume and motility.
- Some patients may develop loose stools while taking Gelusil-M. This condition is usually dose-related, and usually responds to dose reduction.

introducing new

GELUSIL®-M*

each 5 ml. teaspoonful contains:
500 mg. magnesium trisilicate
250 mg. aluminum hydroxide (Warner-Chilcott)
200 mg. magnesium hydroxide
*U.S. Patent No. 3,326,755

a consistent buffering anticostive† antacid

†Avoids constipation.

See next page for prescribing information ▶

GELUSIL–one name to remember...and a dosage form for every patient.



Gelusil®-M Liquid

especially for the constipation-prone patient

Indications: Gelusil-M is indicated for prompt and dependable symptomatic relief of peptic ulcer, gastritis, heartburn, hiatal hernia, esophagitis, and other conditions for which control of gastric hyperacidity is required.

Precaution: Prolonged or intensive therapy in patients with severe renal insufficiency may lead to hypermagnesemia.

Dosage: One to two teaspoonfuls (5 ml. to 10 ml.) between meals and at bedtime or whenever symptoms occur. Certain conditions, such as acute peptic ulcer, may require individualized dosage. If diarrhea occurs, reduce dosage or discontinue use.

Supplied: Gelusil-M (spearmint-flavored)—light green bottles of 12 fl. oz.; and a **special hospital pack.** Keep tightly closed—shake vigorously.

Gelusil® Tablets

the universal take-along antacid

Easy to take along / easy to take / pleasantly mint-flavored. An antacid with adsorbent and demulcent properties which contains in one tablet: 0.25 Gm. aluminum hydroxide (Warner-Chilcott) and 0.5 Gm. magnesium trisilicate (USP).

Dosage: 2 tablets—or more—between meals and at bedtime, or whenever symptoms occur. Tablets should be chewed.

Regular Gelusil® Liquid

when constipation is not a problem

Pleasant mint flavor...ideal for hospital or home. Available in 12 fl. oz. and 6 fl. oz. bottles and a special hospital pack. An antacid which contains adsorbent and demulcent agents in each 4 ml. teaspoonful: 0.25 Gm. aluminum hydroxide (Warner-Chilcott), 0.5 Gm. magnesium trisilicate (USP).

Dosage: 2 teaspoonfuls (4 ml. each)—or more—between meals and at bedtime, or whenever symptoms occur.

Also Available: Gelusil® Flavor-Pack, Gelusil-Lac®.

WARNER-CHILCOTT
Morris Plains, New Jersey

GM-IN-92-4C



Dear Doctor,
You made me
what I am today
a whole lot
slimmer!

TEPANIL —the right start in support of the weight-control program *you* recommend. It reduces the appetite. Doesn't kill it. Weight loss is significant—gradual—yet there is a relatively low incidence of CNS stimulation. Because TEPANIL works on the appetite, not on the "nerves."

Contraindications: Cantraindicated cancurrently with MAO inhibitars, in patients hypersensitive ta diethylprapian hydrachlaride, and in emotianally unstable patients knawn to be susceptible ta drug abuse.

Warning: Althaugh generally safer than the amphetamines, use great cautian when prescribing far patients with severe hypertensian or severe cardiavascular disease. Shauld nat be used during the first trimester af pregnancy unless patential benefits autweigh patential risks.

Side Effects: While rarely causing therapy ta be withdrawn, side effects may accur accasianally; CNS effects (such as insamnia, nervausness, jitteriness), dryness af mauth, thirst, nausea, abdaminal distress, canstipatian, headache, allergic respanse including urticaria ar ather dermatitis; rarely assaciated with tachycardia, cardiac arrhythmia ar ECG changes.

Convenience of two dosage forms: TEPANIL Ten-tab tablets: One 75 mg. tablet daily, swallawed whale, in midmarning (10 a.m.); TEPANIL: One 25 mg. tablet three times daily, ane haur befare meals. If desired, an additianal tablet may be given in midevening ta avercame night hunger.

Use in children under 12 years af age is not recammended.

THE NATIONAL DRUG COMPANY
DIVISION OF RICHARDSON-MERRELL INC.
PHILADELPHIA, PENNSYLVANIA 19144

Tepanil® Ten-tab®
(continuous release form)

(diethylpropion hydrochloride)

T817A U.S. PATENT NO. 3,001,910 1/69

no gag



DIA-QUEL actually tastes good

DIA-quel contains the only therapeutically active ingredient of paregoric—tincture of opium. This has been combined with homatropine methylbromide and pectin to make a sensible antidiarrheal formula.

By leaving out paregoric's outdated preservative—bitter-tasting camphor—we've produced an antidiarrheal that is good-tasting, as well as effective and prompt-acting in acute, nonspecific diarrheas and their accompanying "cramps." It is DIA-quel, a clear, red liquid with a pleasant cherry flavor.

Each teaspoonful (5 ml.) of DIA-quel Liquid contains:
Tincture of Opium... 0.03 ml.—Equivalent to 0.75 ml. of paregoric.
(Warning: May be habit forming)
To reduce hypermotility and frequency.
Homatropine Methylbromide... 0.15 mg.
A safe dose for mild spasmolysis to curb cramping and griping.
Pectin... 24. mg.
Demulcent, adsorbent. Helps form stools.
Alcohol 10% by volume.

In case you're curious, back in the 1700's paregoric was being used for diarrhea, but since the state of the pharmaceutical art was extremely primitive, fungus growth in the medication was a problem. Bitter-tasting camphor was added to prevent such growth and anise oil was added in an attempt to cover up the camphor taste. DIA-quel Liquid is a modern formulation that does not contain either of these outdated ingredients.

Caution: With use of DIA-quel Liquid observe the usual precautions associated with opium derivatives and anticholinergics.

Dosage: Usual adult dosage: 1 or 2 tablespoonfuls (15 or 30 ml.) t.i.d. or q.i.d. Usual children's dosage (Clark's rule): ½ to 2 teaspoonfuls (2.5 to 10 ml.) t.i.d. or q.i.d.

How Supplied: In 4 fl. oz. (118 ml.) band-sealed bottles.

DQJ20968

DIA-quel is a Federally exempt narcotic (Class X) preparation. Where state law permits, no prescription is necessary.

For a complimentary sample of DIA-quel, simply mail your request to us on a signed prescription blank.

DIA-QUEL LIQUID

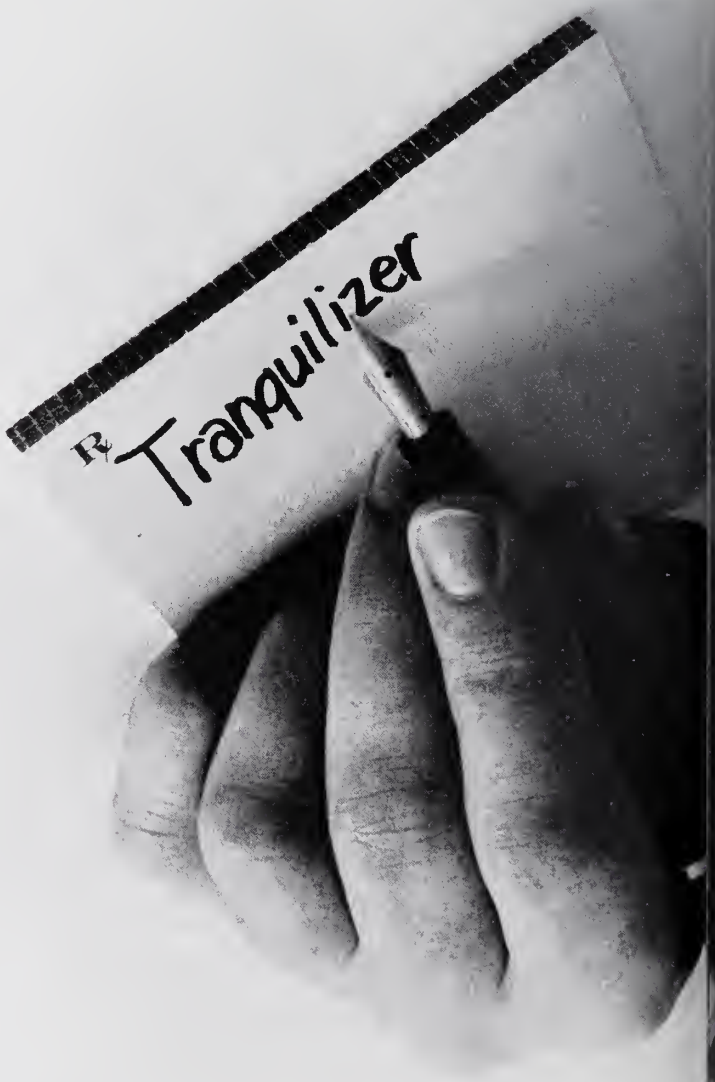
IPC
REG. U.S. PAT. OFF.

INTERNATIONAL PHARMACEUTICAL CORP.
Warrington, Pennsylvania 18976

Pertofrane®, desipramine hydrochloride
Indications: For relief of depression.
Contraindications: Do not use drugs of the M.A.O.I. class with Pertofrane. Hyperpyretic crises or severe convulsive seizures may occur; potentiation of adverse effects can be serious or even fatal. When substituting this drug in patients receiving an M.A.O.I., allow an interval of at least 7 days. Initial dosage in such patients should be low and increases should be gradual and cautiously prescribed.
Warning: Activation of psychosis may occasionally be observed in schizophrenic patients. Do not use in patients under 12 years old, and do not use in women who are or may become pregnant unless the clinical situation warrants the potential risk.
Precautions: Careful supervision and protective measures for potentially suicidal patients are necessary. Discontinuation of therapy or adjunctive use of a sedative or tranquilizer may be necessary in the presence of increased anxiety or agitation, hypomania or manic excitement. However, phenothiazines may aggravate the condition. Atropine-like effects may be more pronounced (e.g. paralytic ileus) in susceptible patients and in those receiving anticholinergic drugs (including antiparkinsonism agents). Carefully observe patients with increased intraocular pressure. Prescribe cautiously in hyperthyroid patients and in those receiving thyroid medications. Cardiovascular complications (myocardial infarction and arrhythmias) are potential risks since they have occasionally occurred with imipramine, the parent compound. Desipramine may block the pharmacologic activity of guanethidine and related adrenergic neuron-blocking agents. Hypertensive episodes have been observed during surgery in patients on desipramine therapy.
Before prescribing the drug, the physician should be thoroughly familiar with prescribing information, with the literature, with all adverse reactions, with the diagnosis and management of depression, and with the relative merits of all measures for

You decide who needs how much

PRESCRIPT



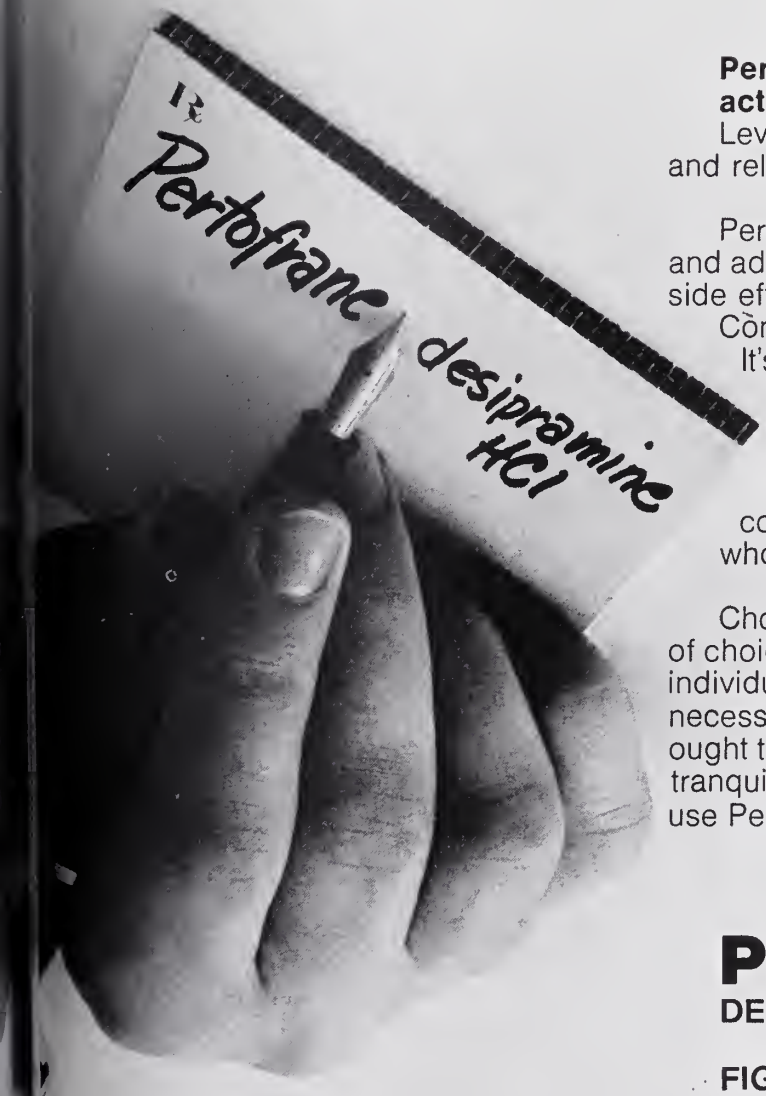
treating the condition.
Adverse Reactions: Dry mouth, constipation, disturbed visual accommodation, anorexia, perspiration, insomnia, drowsiness, dizziness, headache, nausea, epigastric distress, and skin rash (including photosensitization) may appear. Since orthostatic hypotension has occurred, carefully observe patients requiring concomitant vasodilating therapy, particularly during the initial phases. Other adverse reactions include tachycardia, changes in EEG patterns, tremor, falling, mild extrapyramidal activity, neuromuscular incoordination, epileptiform seizures. A confusional state (with such symptoms as hallucinations and disorientation) occurs occasionally and may require reduced dosage or discontinuance of therapy. Rarely, transient eosinophilia, slight elevation in transaminase levels, transient jaundice, or liver damage have occurred. If abnormalities occur in liver function tests, discontinue drug and investigate. Occasional hormonal effects, particularly decreased libido or impotence and instances of gynecomastia, galactorrhea and female breast enlargement have been observed. Urinary frequency or retention may occur. The drug should be discontinued if agranulocytosis, bone marrow depression, jaundice, thrombocytopenia, or purpura occur.
Dosage: 25 to 50 mg. t.i.d. The maximum daily dose is 200 mg. Continue maintenance dosage for at least 2 months after obtaining satisfactory response. Generally, elderly and adolescent patients should be given low doses.
Availability: Pink capsules of 25 mg in bottles of 100 and 1000.
(B) 46-530-E

For complete details, please see the full prescribing information.

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York 10502

antidepressant and how much tranquilizer—

ON POWER



Pertofrane can give rapid antidepressant action often within 3 to 5 days.
Levels of psychomotor activity, patient outlook and related somatic complaints may improve.

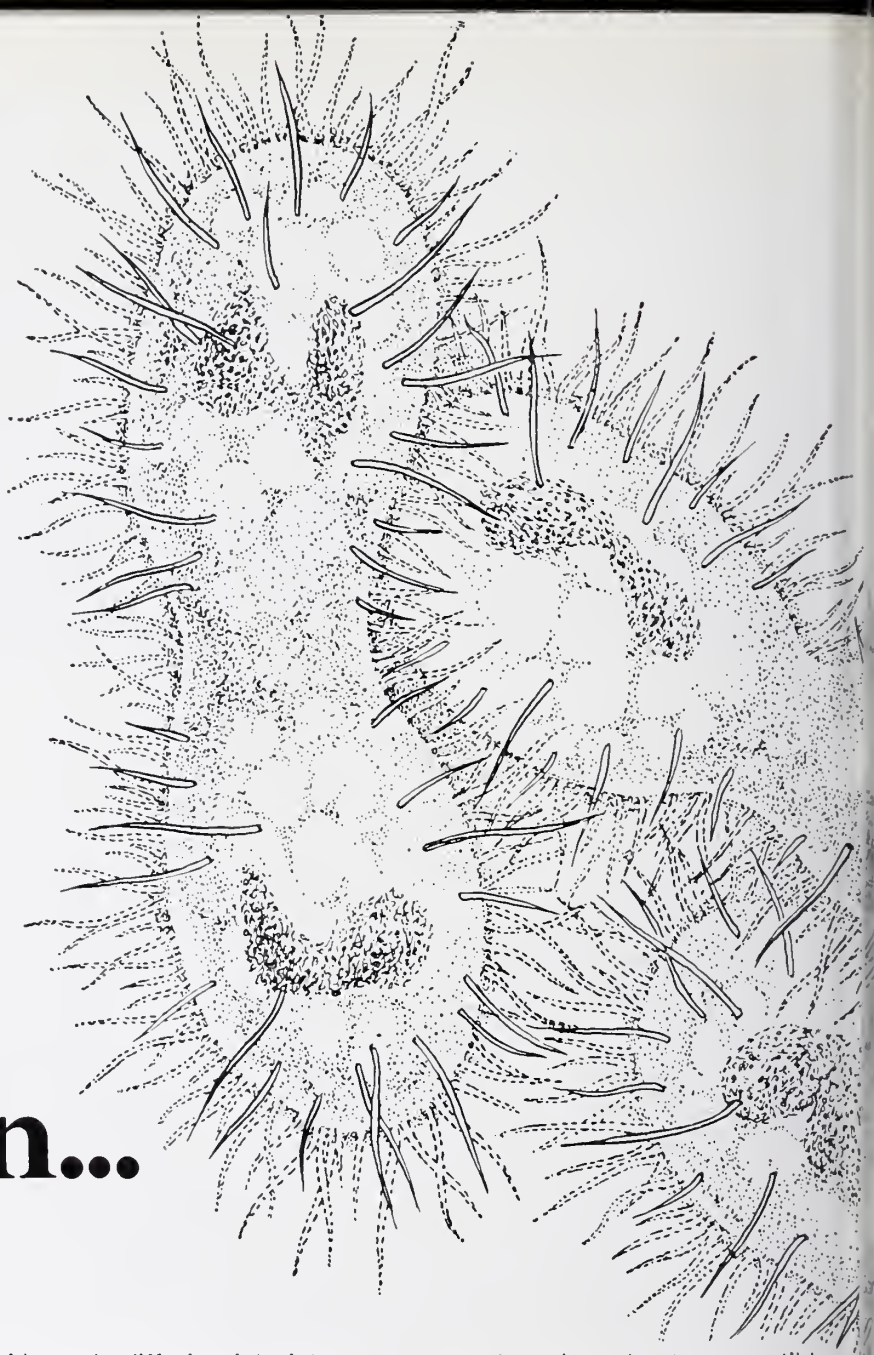
Pertofrane is well tolerated by most patients and adverse reactions are usually mild. A few serious side effects have been reported infrequently.
Consult full prescribing information before using. It's summarized above.

Anxious Depressives...
May require adjunctive use of tranquilizers; but they don't always fit ready-made drug combinations. Isn't it better for *you* to decide who needs how much of which drugs?

Choose Pertofrane and pick your tranquilizer of choice. With this "combination", control the individual drug dosage adjustments that may be necessary for proper therapy. Isn't that the way it ought to be? Please remember, phenothiazine tranquilizers may aggravate depression, and never use Pertofrane with an MAO inhibitor.

PERTOFRANE®
DESIPRAMINE HYDROCHLORIDE Geig

FIGHTS DEPRESSION



A high index of suspicion... E. coli

How high is the "index of suspicion" for *E. coli* in urinary tract infections?

Recently it has been estimated that about 86 per cent of positive cultures in first attacks of urinary tract infection are *E. coli*.[1] It has also been noted that "The coliform group, especially *E. coli*, accounts for approximately 90 per cent of initial infections. . . ."[2]

Consider wide-spectrum Gantanol® (sulfamethoxazole) for its high "index of confidence"—its proven effectiveness against *E. coli* and other sensitive gram-negative and gram-positive organisms. Therapeutic levels of Gantanol in blood and urine are achieved within 2 hours after a 2-Gm starting dose, with ready diffusion into interstitial fluids. Responsive infections generally clear within 5 to 7 days, with relief of symptoms usually seen within 24-48 hours.

Gantanol also earns its high "index of confidence" because Gantanol therapy is relatively free from complications, including the problem of bacterial resistance or superinfection.

Convenient, economical dosage schedule: *b.i.d.*

References: 1. Vernier, R. L., in Patient Care Feature: *Patient Care, 1*:20 (Feb.) 1967. **2.** Beeson, P. B.: "The Infectious Diseases," in Beeson, P. B., and McDermott, W. (eds.): *Cecil-Loeb Textbook of Medicine*, ed. 12, Philadelphia, W. B. Saunders Company, 1967, p. 230.

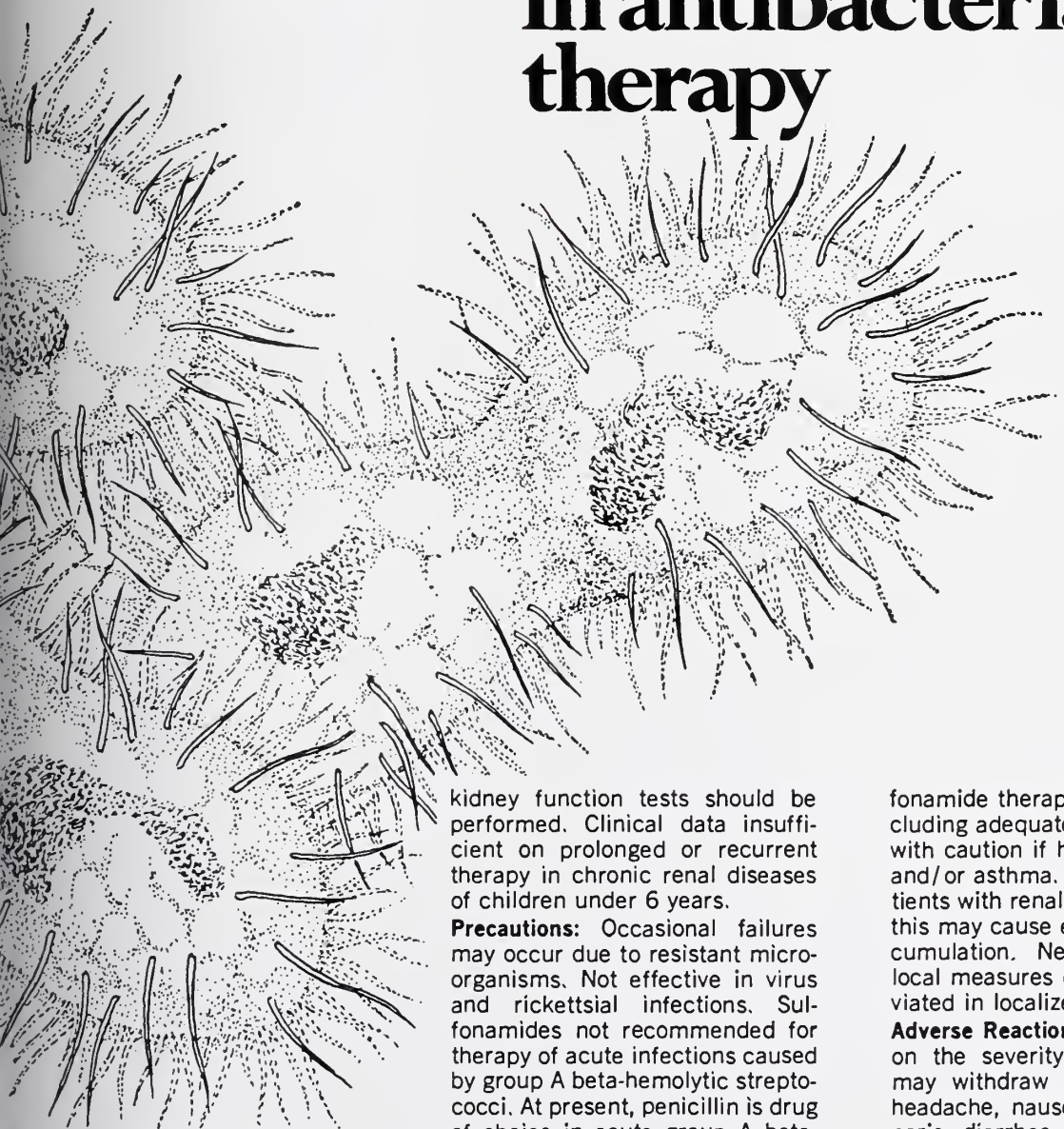
Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute and chronic urinary tract, respiratory and soft tissue infections due to susceptible microorganisms; prophylactically following diagnostic instrumental procedures on genitourinary tract.

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first 3 months of life.

Warnings: Use only after critical appraisal in patients with liver or renal damage, urinary obstruction or blood dyscrasias. Deaths reported from hypersensitivity reactions, Stevens-Johnson syndrome, agranulocytosis, aplastic anemia and other blood dyscrasias. In closely intermittent or prolonged therapy, blood counts and liver and

For a high index of confidence... Gantanol® (sulfamethoxazole) in antibacterial therapy



Artist's rendition of E. coli. As with most strains of E. coli, these have flagella and are motile.

kidney function tests should be performed. Clinical data insufficient on prolonged or recurrent therapy in chronic renal diseases of children under 6 years.

Precautions: Occasional failures may occur due to resistant microorganisms. Not effective in virus and rickettsial infections. Sulfonamides not recommended for therapy of acute infections caused by group A beta-hemolytic streptococci. At present, penicillin is drug of choice in acute group A beta-hemolytic streptococcal infections; although Gantanol has produced favorable bacteriologic conversion rates in this infection, data insufficient on long-term follow-up studies as to its effect on sequelae of rheumatic fever or acute glomerulonephritis. If other treatment cannot be used and Gantanol is employed in such infections, *important that therapy be continued in usual recommended dosage for at least 10 days.* Observe usual sulfonamide therapy precautions, including adequate fluid intake. Use with caution if history of allergies and/or asthma. Follow closely patients with renal impairment since this may cause excessive drug accumulation. Need for indicated local measures or surgery not obviated in localized infections.

Adverse Reactions: Depending upon the severity of the reaction, may withdraw drug in event of headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, Stevens-Johnson syndrome, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

ROCHE

Roche
LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

Valentine's
MEAT EXTRACT

stimulates the appetite,
increases the flow of digestive juices,
provides: supplementary amounts of vitamins, minerals and soluble proteins,
extra-dietary vitamin B_{12},
protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA

For the
Discriminating
Eye Physician

Depend on the Services of a Guild Optician

in
Lynchburg, Virginia

A. G. JEFFERSON

Ground Floor **Allied Arts Bldg.**

Exclusively Optical

Every Virginia Doctor Should Have This Book!

The history of medicine in the Old Commonwealth in the last century is a work every doctor should be proud to own. Complete and intensely interesting.

Medicine In Virginia

By WYNDHAM B. BLANTON, M.D.
Published under the Auspices of
The Medical Society of Virginia

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19th Century
$2.00

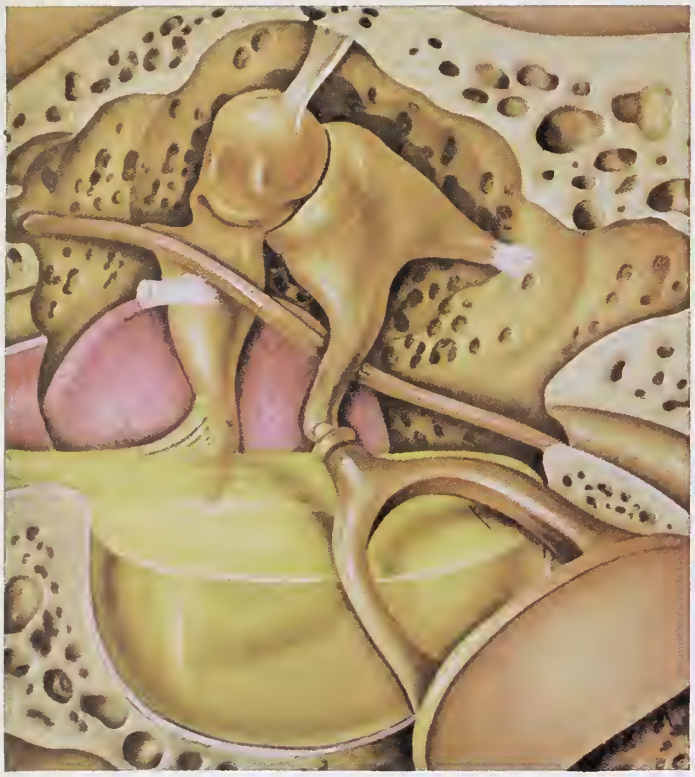
Order through
The Medical Society of Virginia
4205 Dover Road
Richmond, Virginia 23221

See next page for prescribing informatio



You've made it one of your specifics in acute otitis media

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE



You've made it one of your specifi in acute otitis medi

DECLOMYCIN acts against many strains of H. influenzae, pneumococci and streptococci, te most common invaders. In otitis media, where is difficult to isolate the causative organism, th coverage may be important. However, some str n. may be resistant and other pathogens can be involved.

You've found the high serum levels of DECLOMYCIN important, too. Its prolonged ac permits convenient 300 mg b.i.d. or 150 mg q.i.d. administration.

When specimens are obtainable, your culture studies will indicate the usefulness of DECLOMYCIN.

Effectiveness: DECLOMYCIN Demethylchlortetracycline should be equally or more effective therapeutically than other tetracyclines in infections caused by organisms sensitive to the tetracyclines.

Contraindication: History of hypersensitivity to demethylchlortetracycline.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, entero pruritus ani. Skin—maculopapular and erythematous rashes; case of exfoliative dermatitis has been reported. Photosens onycholysis and discoloration of the nails (rare). Kidney—rise ir apparently dose-related. Transient increase in urinary output, times accompanied by thirst (rare). Hypersensitivity reactions caria, angioneurotic edema, anaphylaxis. Teeth—dental stainir low-brown) in children of mothers given this drug during the latt of pregnancy, and in children given the drug during the neonat od, infancy and early childhood. Enamel hypoplasia has been s a few children. If adverse reaction or idiosyncrasy occurs, disco medication and institute appropriate therapy. Demethylchlo cycline may form a stable calcium complex in any bone-forming with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. S be given 1 hour before or 2 hours after meals, since absorp impaired by the concomitant administration of high calcium c drugs, foods and some dairy products. Treatment of strepto infections should continue for 10 days, even though symptom subsided.

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE

Capsules: 150 mg; **Tablets:** film coate mg, 150 mg and 75 mg of demethylchlo cycline HCl.

LEDERLE LABORATORIES, A Division of
American Cyanamid Company, Pearl River, New York

Lederle

heavenly relief
for unearthly cough

Benylin®
EXPECTORANT



Each fluidounce contains: 80 mg. Benadryl® (diphenhydramine hydrochloride, Parke-Davis); 12 grains ammonium chloride; 5 grains sodium citrate; 2 grains chloroform; 1/10 grain menthol; and 5% alcohol.

An antitussive and expectorant for control of coughs due to colds or of allergic origin, BENYLIN EXPECTORANT is the leading cough preparation of its kind.

BENYLIN EXPECTORANT tends to inhibit cough reflex... soothes irritated throat membranes. And its not-too-sweet, pleasant raspberry flavor makes BENYLIN EXPECTORANT easy to take.

PRECAUTIONS: Persons who have become drowsy on this or other antihistamine-containing drugs, or whose tolerance is not known, should not drive vehicles or engage in other activities requiring keen response while using this preparation. Hypnotics, sedatives, or tranquilizers if used with BENYLIN EXPECTORANT should be prescribed with caution because of possible additive effect. Diphenhydramine has an atropine-like action which should be considered when prescribing BENYLIN EXPECTORANT.

ADVERSE REACTIONS: Side reactions may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, and blurring of vision have been reported. Allergic reactions may occur.

PACKAGING: Bottles of 4 oz., 16 oz., and 1 gal.

Parke, Davis & Company
Detroit, Michigan 48232

PARKE-DAVIS

410R6

A once-popular treatment for back pains was to have the seventh son of a seventh son stand or walk on the patient's back.





The pain of earache was allegedly r... by holding a hot roasted onion to the ear

For headache, a sovereign remedy was to wear a snakeskin round one's head.



A realistic approach to pain relief



'Empirin'®

Compound with Codeine Phosphate gr. 1/2 No. 3

Each tablet contains:
Codeine Phosphate gr. 1/2 (Warning—May be habit forming), Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.

keeps the promise of pain relief

'B.W. & Co.' narcotic products are Class "B", and as such are available on oral prescription, where State law permits.

BURROUGHS WELLCOME & CO. (U.S.A.) INC.
Tuckahoe, N.Y.

The AMBAR SCRAPBOOK of

Obesity Oddities

FACT & LEGEND



CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.)
(Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

A. H. ROBINS COMPANY,
RICHMOND, VA. 23220

A·H·ROBINS

It's almost as if you were there to give an injection of penicillin



V-Cillin K®, Pediatric dependable oral penicillin therapy

Potassium Phenoxymethyl Penicillin

Description: V-Cillin K, the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly), combines acid stability with immediate solubility and rapid absorption. Higher, more rapid serum levels are obtained than with equal oral doses of penicillin G.

Indications: Streptococcus, pneumococcus, and gonococcus infections; infections caused by sensitive strains of staphylococci; prophylaxis of streptococcus infections in patients with a history of rheumatic fever; and prevention of bacterial endocarditis after tonsillectomy and tooth extraction in patients with a history of rheumatic fever or congenital heart disease.

Contraindication: Penicillin hypersensitivity.

Warnings: In rare instances, penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin or with bronchial asthma or other allergies. Resuscitative drugs should be readily available. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: Use cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, discontinue administration and take appropriate measures.

Adverse Reactions: Although serious allergic reactions are much less common with oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it possesses a significant index of sensitization. The following hypersensitivity reactions have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

Administration and Dosage: Usual dosage range, 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, 50 mg. per Kg. per day divided into three doses.

See package literature for detailed dosage instructions for prophylaxis of streptococcus infections, surgery, gonorrhea, and severe infections.

How Supplied: Tablets V-Cillin K® (Potassium Phenoxymethyl Penicillin Tablets, U.S.P.), 125 mg. (200,000 units), 250 mg. (400,000 units), and 500 mg. (800,000 units).

V-Cillin K® (potassium phenoxymethyl penicillin, Lilly), Pediatric, for Oral Solution, 125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc. of solution (approximately one teaspoonful). [042567A]

900134

Additional information available to physicians upon request.

Eli Lilly and Company, Indianapolis, Indiana 46206

Lilly

The Virginia MEDICAL MONTHLY

February, 1969

Vol. 96, No. 2
Whole No. 1401

Guest Editorial . . . .

Cirrhosis of Liver

CIRRHOSIS OF THE LIVER is a chronic hepatic disease in which parenchymal elements are replaced by fibrous tissue, resulting in a loss of hepatic function and frequently in death.

While it is concentrated in certain areas, it occurs in every country throughout the world but is chiefly a disease of the urban population as contrast to the rural.

In 1959 the World Health Organization reported mortality rates for 52 countries and no nation that submitted data was free of cirrhosis. The annual global mortality is in excess of 300,000 deaths. The lowest mortality rate was reported from Iceland and was 0.6 deaths per 100,000 population and the highest was from West Berlin with a rate of 32.6. In France there were 26 deaths per 100,000, while in England, just across the channel, there were only 2.0, and in the United States there were 11 deaths per 100,000.

Records from the 50 states showed Arkansas had the lowest rate with 4.7 and Nevada was highest with 19.2, but in the District of Columbia it was 31.3, while in Virginia it was 7.7. In New York City in 1965, cirrhosis represented 11.3% of all recorded causes of death and in the United States in 1958 it was the eighth most common cause of death; only cardiovascular and neoplastic diseases exceeded it in the age group from 45 to 64.

We reviewed the resident deaths from cirrhosis in Virginia for the five-year period 1960-1964 and during that time 1,545 deaths were recorded as being due to cirrhosis. Males predominated but there was no significant difference between the rates in white and non-whites. It is of interest that no deaths were reported as caused by cirrhosis in four counties of the State, namely, Floyd, Fluvanna, Powhatan and Surry. During this same period there were reported 155 deaths in Norfolk, 149 in Richmond and 77 in Roanoke.

In reviewing the problem of cirrhosis in any area one is impressed with its association with the excessive ingestion of alcohol. In 1950, the Mayo Clinic reported on their experience over a five-year period and they stated that 64% of their patients with cirrhosis had a history of excessive drinking of alcohol. In 1953, in Los Angeles, of 16,000 autopsies there were 782 cases of cirrhosis and 78% of these were reported as heavy drinkers. In Virginia in 1960-64 of all deaths caused by cirrhosis, 33% recorded alcoholism as a predisposing factor. While the association of alcoholism and cirrhosis is unquestioned, it should be emphasized that only about 8% of alcoholics develop cirrhosis. If only one out of every 12 alcoholics develops cirrhosis, what protects the remaining 11 from acquiring the disease? It has been accepted for years that poor nutrition increases the susceptibility of alcoholics to the disease. However, more recent studies in many areas show no significant correlation with cirrhosis mortality rates and the state of general nutrition. Further, there is no correlation between cirrhosis rates and general economic prosperity, but contrarily in many areas where the level of nutrition has steadily increased, there has been a corresponding increase in the frequency of cirrhosis. As an example, in Canada cirrhosis has steadily increased as a cause of death from 0.25% in 1922 to 5.9% in 1955 and is still increasing.

It can now be stated that the role of malnutrition as a primary or secondary factor in the development of cirrhosis is unclear but it probably is not an essential one.

Viral hepatitis may progress to chronic active hepatitis and may further progress to cirrhosis, and this has been documented by serial punch biopsies recently, but it is probably not a common initiating factor in the production of cirrhosis.

While other hepato-toxic agents such as certain drugs and chemicals often cause liver injury, the evidence suggests that this seldom progresses to advanced cirrhosis. Regardless of the primary hepatic injury, only a small percent of cases develop cirrhosis and the cause of chronicity in any type of liver disease is still poorly understood.

Even though the association of alcholism and "hardening of the liver" was reported by Baillie as far back as 1793, and it is now clear that most cases of cirrhosis develop in alcoholics, little has been accomplished in the control of chronic alcoholism.

While cirrhosis claims over one-third of a million victims by death a year and is much more frequently a cause of morbidity, a more definitive approach to the problem of alcoholism must be adopted if the incidence of cirrhosis is to be reduced.

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Presidential Address

THOMAS W. MURRELL, JR., M.D.
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I WOULD FIRST LIKE TO TELL YOU that I am very grateful for the opportunity you have given me to serve as President of The Medical Society of Virginia. I have been supported by men of great dedication on council, on our numerous committees, and also by an executive staff of considerable merit. I am sure that you are aware of the fact that the job of President is as demanding as it is interesting and it could not be carried out with any reasonable efficiency without all of the people whom I have mentioned. I would like particularly to thank those component societies who were kind enough to ask me to participate in their programs, because I gained so much by a full exchange of ideas.

You have before you the reports of the many committees of the Society and have received throughout the year in the Virginia Medical Monthly the actions of Council. Due to the magnitude of the activities of The Medical Society of Virginia there is much that we could discuss at this time, but I would like to talk to you on three broad areas. These will include the matters which concern the internal affairs of the profession, matters between the profession of medicine and those concerned with health, especially the Federal Government, and lastly, the relationship between the profession and matters of State and national concern which have little to do with the practice of medicine.

At the last meeting of the House of Delegates I was instructed to appoint a committee to study the relationship of Blue Shield plans and the practicing physicians throughout the State. A Blue Shield Commission was appointed and the report of their deliberations is included in your committee reports. As you remember, considerable discussion took place in this house last year regarding the operating provisions of the 7510 Plan which was being marketed in the State of Virginia. Objections were raised in reference committee to the establishment of a profile system of determining fees, to the fact that non-participating physicians were paid on a different basis from participating physicians and also that physicians could not alter their usual fees unless the Blue Shield Board was given ninety days notice. As the commissions report signifies, I was very much pleased with the cooperative spirit that occurred between members of the commission and the Board of Blue Shield. As result of these talks the profile system was abandoned and usual and customary fees adopted, differentiation between fees paid to participating and non-participating physicians was abolished, and the requirement for ninety days notice for changes in fee schedules was eliminated. Subsequent to these actions, over fifty thousand dollars was paid to subscribers who had submitted claims for services performed by non-participating physicians and thereby had received less money for professional fees. We have been informed that the 7510 Plan has proven to be actually sound. We agreed that the Insurance Review Committee of The Medical Society of Virginia would review cases in which the physicians' charges were thought to be excessive, and after one year during which over one hundred thousand claims were processed no such cases have been presented to the committee. The Insurance Review Committee was enlarged to include physicians from all regions served by Blue Shield of Virginia. The deliberations between the Blue Shield Commission and

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Virginia Medical Service Association (Blue Shield) is a wonderful example of the results which can be obtained by good communication and understanding. In this instance the Society's point of view was reasonable and valid, and men in good faith were able to resolve differences. As you know, Blue Shield of Virginia has been appointed the fiscal administrator for Title 19 (Medicaid) which will increase the office staff of that organization by about forty people. The administration believes that with the increase in volume of processing claims there will be some saving to the Blue Shield subscriber.

Year after year in the daily press, particularly since the enactment of the Medicare Bill, much is being written about the high cost of medical care. You are aware of the fact that much is being written about physicians' fees as the major factor contributing to the increased financial burden on the American people. From the information which we have at hand in the State of Virginia I can absolutely state that this is not the case, and that while physicians' fees have risen in the last five years, they have by no means kept pace with the inflationary rise on prices in business and industry. The Council of The Medical Society has informed the fiscal agent of Part B of Medicare that the Insurance Review Committee which now handles matters relating to fees submitted by commercial insurance carriers and Blue Shield will henceforth upon request review questionable charges submitted by that agent. With the day-to-day increase in prepaid medical insurance the deliberations of the Insurance Review Committee will reflect accurately any problems that we may have with excessive professional fees. I think that everyone in this Society should be proud of the record of Virginia physicians in this area and will stand solidly behind committees of this Society which deal with the unusual instances of unreasonable fees.

Considerable time and effort has been spent during the past year by members of the Society in providing for constructive dialogue between representatives of the Virginia chapter of the American Academy of General Practice and the deans and selected faculty members from the two medical schools to discuss ways and means of encouraging medical students to become interested in family practice by the establishment of departments within the schools to train men for this type of work. I believe that these meetings have been constructive, although I am not aware that very much has been accomplished. However, I am very confident that the medical schools will find ways to meet this challenge, and I only hope that we can continue to work together to solve this very difficult problem.

The matters that relate to the practicing physician, the Federal Government and all those interested in health affairs are so numerous that it is very difficult to select the most important. During the past year I have had the opportunity on a number of occasions to talk with people who are employed by the Department of Health, Education and Welfare. This experience has taught me that we are faced with the problem of dealing with an enormous number of very hard-working, dedicated, intelligent people who much of the time don't see eye-to-eye with us in regard to many facets of delivery of health care. While the majority of us who are interested in the future of the quality of patient care are working hard in the practice of medicine, this army of people is paid to think and promote ideas in accord with a philosophy which in many instances we believe to be disastrous to the future of our country. As the years have passed since the establishment of the Department of Health, Education and Welfare we are increasingly in the arena in which ideas and knowledge to support these ideas will count. The day has absolutely disappeared when people believed that the way we could stop or alter federal programs was by simply calling them socialistic or a result of the philosophy of the Great Society. I sincerely

believe that the only hope that the medical profession has to preserve the practice of medicine in a free enterprise system is to be involved in the discussions which will result in decisions regarding the future delivery of health care in the United States. When we come to these tables we must participate as well-informed, unemotional physicians with better ideas than those who consciously or inadvertently would create a health system in which the physician is no longer free. During the past year, whenever the opportunity presented itself, I have exerted every effort to involve the Society in the planning stages of Federal programs which will have an effect on us.

We have witnessed during the past year the beginnings of the operations of the Regional Medical Program (Heart, Cancer, Stroke Program) and we have made every effort to see to it that The Medical Society of Virginia will play an active role in determining the direction that the program will follow. The Heart, Cancer, Stroke Committee of The Medical Society of Virginia was accepted as a Projects Review Committee to make recommendations as to which programs being proposed would be of most value to the practicing physician. The Regional Medical Program in the State of Virginia is at this time entirely designed to provide continuing education for physicians, and because of that fact I have taken the position that the practicing physician has indeed a very vital role to play in the direction of this program. As logical as that may seem to you, there are people (and I don't mean the executive staff or people in Washington) to whom it has been very difficult to get the views of a state medical society across. I recently had the opportunity to speak at a meeting of the Executive Directors of Regional Medical Programs in the fifty states. I told these people that in Virginia every thinking physician wants any educational experience which can improve the quality of the services which he gives his patients. Furthermore, I added that I could see no reason why the dissemination of new knowledge would not make the day-to-day practice of medicine more interesting. However, I stated that if the practicing physician in Virginia did not have the opportunity to decide what kind of continuing education he needed and wanted I doubted if the program could be successful. The Federal Government has funded regional medical programs for our country and properly administered cooperative arrangements between our members, and the Governor's Advisory Committee can only result in something of value for our State. I urge you at every opportunity to be involved in the planning organization of programs in your areas.

As you are aware, Congress passed the Comprehensive Health Planning and Public Health Services Amendment of 1966, and the Governor of Virginia has appointed the Virginia Comprehensive Health Planning Council which is headed by William Grossman who is president-elect of this society. This Council is directed to initiate or approve programs which will take into consideration literally all aspects of the delivery of health care. At the first meeting of this planning Council Dr. Grossman graciously gave me the opportunity to speak for The Medical Society of Virginia and to express the fact that the Society is vitally interested in the deliberations of the council and particularly in all aspects of manpower in the health field. I doubt very much that we will witness in our lifetime any Federal program which is of more importance to the profession of medicine than the Comprehensive Health Planning Act. Involvement of The Medical Society of Virginia is of such importance and seriousness that this Society should consider at this meeting means to bring this about. The Richmond Academy of Medicine will present to you later in this session a resolution which shall empower The Medical Society of Virginia to apply to Virginia Comprehensive Health Planning Council for funds to study in

depth the professional activities of physicians in Virginia with particular emphasis upon what work now being performed by our members could be done by others and what training would be required to educate people to meet their needs. I urge you to give careful consideration to this important proposal.

The Liaison Committee of The Medical Society of Virginia to the Virginia Hospital Association has proposed to Council that a joint meeting of the two associations be arranged to discuss various aspects of Comprehensive Medical Planning. Council has proposed that this program shall take place next spring, and I am sure that it will be of considerable interest to the profession.

During this meeting we will have an opportunity to discuss Federal programs with men who are or have been employed by the Department of Health, Education and Welfare. This should be an unusual opportunity to bring up for discussion matters which have such importance for the future of the profession.

I have been thinking a great deal lately, as I am sure you have, about the state of our nation in matters which have absolutely nothing to do with the practice of medicine. Among many things I have been puzzled about the historical role which physicians have seemed to play in public affairs. It is my impression that for centuries physicians themselves, and perhaps their patients, have thought that it is a better thing for doctors to know about and express themselves on matters relating to the practice of medicine but in general that they should take little part in public affairs. There are physicians who think that it is indeed unwise to discuss their political views with their patients, and perhaps to some this is valid. However, if the medical profession represents one of the most educated segments of our society, and if we are capable of expressing ourselves, then it seems incomprehensible, if we see in our country changes which are dangerous and perhaps disastrous, that as an organization of free men we do not state our position. Many of you will agree, I hope, that riots in our streets are perhaps the most incredibly dangerous action in the history of our democracy. I suppose that those of us in this room whose lives were so greatly affected by the riots in the streets of Germany in the 1930's might have deeper feelings about this but no less concern than anyone else. The Richmond Academy of Medicine will present to you a resolution which can express the concern of the physicians of Virginia about riots in the streets and if you approve this resolution it may convey to the public the fact that we are not silent when our country may be in danger.

Annual meetings of this Society have been going on now for over 125 years. I am sure that the closing remarks of each president have echoed much of the same thing. Perhaps they have all said that they were quite proud to be Virginians, particularly Virginia physicians, and that they were greatly honored to have had the opportunity to serve the profession as best they could. I share each and every one of those sentiments and a few besides. I wondered a year ago how I would feel about the future of the practice of medicine after this experience and particularly after the exposure to so many people who have ideas with whom I agree or might disagree. It is very apparent to me that this profession is becoming stronger and not weaker in combating problems of health care in this country. The main reason for this is that now more than ever physicians are individually thinking, and from these thoughts which are born in empathy and experience more and more good ideas will come forth and when they do in great enough numbers the American people will understand. Because of this conviction I believe that if we participate in planning for the future we will contribute a great deal to the Welfare of our country and preserve the best from the past.

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Medical Management of Rheumatoid Arthritis

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Rheumatoid arthritis is a disease of unknown etiology and there is no specific treatment. Use of the program described here, however, will benefit the patient without undue risk of undesirable side effect. It includes controlling inflammation, relieving pain, and preventing deformities.

THE BASIC PLAN of management of patients with rheumatoid arthritis includes: (1) controlling inflammation; (2) relieving pain; and (3) preventing deformities. Numerous problems are encountered, however. First of all, it should be remembered that rheumatoid arthritis is a disease of unknown etiology. For several decades in this century there were numerous erroneous concepts about its etiology and treatment. This caused a delay in serious and accurate study of the disease.[1,2,3]

Emotional Attitude of Physician and Patient

A good doctor-patient relationship is extremely important. Many physicians develop a negative attitude towards the patient with rheumatoid arthritis and the patient may become quite hostile. When a physician has told the patient to take a few aspirin tablets and go to bed because nothing else can be done, how can we criticize the patient for seeking the advice of quacks and acquiring such devices as copper bands, "radioactive" gloves, and drinking sassafras tea, concentrated sea water and honey and vinegar?

The program of management for the patient should begin with a conference at which time the nature of the disease is explained, the outlook described in as favorable terms as possible, and the patient allowed to ask questions. In these sessions, one often encounters erroneous and very bizarre ideas about the disease and its treatment. This information may have come from a friend, relative, taxi driver, hair dresser, or a chance acquaintance on the street corner. Listen to them carefully, but do not belittle because in some cases what you have to offer may not be much more successful. Allow the patient to follow these volunteered suggestions so long as they do not upset your own regimen, are not dangerous, and are not expensive. Discourage all others.

Rest and Exercise

A very important part of the management is a program of rest and exercise. During a severe episode, complete bed rest may be necessary. Otherwise, patients should be encouraged to obtain approximately 12 hours of bed rest a day. Bed rest after lunch may help alleviate the late afternoon fatigue. With exacerbations of disease and where appropriate bed rest at home is impractical or impossible, hospitalization of the patient is indicated and may be extremely beneficial.

During the conference with the patient, a simple basic program of physical therapy

should be instituted. There should be major emphasis on exercises which will maintain and improve joint function. It is important to avoid a complicated regimen and one that is encumbered by many gadgets because this will often discourage the patient and result in the program being discarded because of frustration.

Heat application, either local or total body, may be most helpful. The local type may be in the form of simple hot packs. Paraffin baths to the hands are helpful in some cases. If an electric heating pad is used, caution is necessary because a burn may result. Diathermy and ultrasonic therapy have not been found to be particularly effective. Since the majority of patients have their greatest symptoms of pain and stiffness in the morning, they are often benefited by a shower or if possible, a hot tub bath, followed by simple exercise. (NOTE: Many patients with rheumatoid arthritis cannot get in and out of tub!) The exercises should be repeated on two other occasions later in the day. Patients should not exercise to the point of creating more pain or swelling. This will greatly discourage them. Although a session or two in a well-conducted physical therapy clinic may be of value for instruction purposes, the greatest value will be by the regular conscientious use of these measures in the home environment.

Lying in a supine position with pillows under flexed knees and with the elbows flexed and the hands across the abdomen or in the inguinal areas should not be allowed because serious ankylosis with flexion deformities may result. Also, only one small pillow should be allowed under the head. Too much neck flexion due to a pillow possibly will increase the risk of cervical subluxation.

Simple orthopedic measures such as night splints, strappings, light braces, metatarsal pads or bars, arch supports and built-up shoes should be employed to correct stress and strain and prevent deformities. In more severe cases, a great deal of self help may be obtained from the use of an elevated commode seat and long-handled fork, comb, and shoe horn.

Diet

A well-balanced diet is important. There are no particular foods or vitamins which are helpful. The administration of calcium, fluoride, testosterone, and estrogen has not definitely proved to be beneficial in preventing or treating the frequently associated osteoporosis and will only add to the medicinal burden.

Anemia may be present and may be marked in some cases.[4] The severity of the anemia usually parallels the severity of the arthritis. It is usually of a normocytic-normochromic type associated with a low serum iron and iron binding capacity. This type anemia is usually not benefited by the administration of iron. On occasions, however, the anemia may be of a hypochromic-microcytic type. This type of anemia may be caused by chronic occult blood loss from the gastrointestinal tract by anti-inflammatory agents. The administration of iron may be helpful in this case. A relative anemia secondary to plasma dilution may be caused by phenylbutazone [Butazolidin®].

Drug Therapy

Over the years, a great number of drugs have been advocated for the treatment of rheumatoid arthritis. This number in itself indicates a limitation of value in a single one. At the present time, the following are most commonly used: (1) the salicylates, (2) phenylbutazone [Butazolidin®], or its hydroxy-analog, oxyphenbutazone [Tandearil®], (3) indomethacin [Indocin®], (4) gold salts, (5) antimalarial agents, and (6) adrenocorticosteroids. Each of these are chemical agents of widely diversified structures, but each has two things in common: none can be predicted to have a controlling effect on a given case of rheumatoid arthritis, with the possible exception of the

steroids, and all have high toxic potential, particularly the steroids. It is of interest that each has entered the field of rheumatology empirically except indomethacin.

Aspirin—Aspirin or a comparable salicylate preparation should be given in essentially all cases of rheumatoid arthritis. It has both analgesic and anti-inflammatory properties. The dose should be large and unless the patient is intolerant, a minimum of 12 tablets a day in divided doses should be given. If the patient usually awakens during the night, an additional dose with milk or antacid may be helpful against morning stiffness. Some individuals may experience gastric intolerance but this is usually alleviated by giving the medication after meals or using buffered preparations or coated tablets. If tinnitus or deafness develops, the dose should be reduced slightly but not discontinued. As with the other anti-inflammatory agents used in the treatment of rheumatoid arthritis, except gold salts, peptic ulceration may be precipitated and should be kept in mind. Aspirin may cause constipation and may be a problem in elderly patients.[1,5,6]

Phenylbutazone & Oxyphenbutazone—Phenylbutazone [Butazolidin®] and its hydroxy-analog, oxyphenbutazone [Tandearil®], may prove valuable as alternative agents in the treatment of rheumatoid arthritis. These agents are usually more effective in the treatment of ankylosing spondylitis and acute gouty arthritis, but for reasons not understood they are much less effective in the treatment of rheumatoid arthritis. They are rapidly acting and if the patient with rheumatoid arthritis does not improve in approximately 10 days, the drug can be discontinued. A reasonable dose schedule is 600 mg. daily in three divided doses for three days; 400 mg. daily for the next seven days; then a maintenance dose of from 100 to 300 mg. a day. Toxic side effects are infrequent during the initial trial period, but they should be carefully watched for during long term management. They include salt and water retention, blood dyscrasias, stomatitis, skin rash, peptic ulcers, and hematuria. They may potentiate the effect of the coumarin type anticoagulant drugs, sulfonylurea type oral hypoglycemic agents, sulfa drugs, and insulin. Periodic blood counts and urinalyses should be performed.[1,7,8,9,10,11]

Indomethacin — Indomethacin [Indocin®] is also more effective in the treatment of ankylosing spondylitis and gout than in the treatment of rheumatoid arthritis. Some individuals with rheumatoid arthritis show a therapeutic response to the drug within a week but others may not show a response for approximately four weeks. A reasonable dose schedule is 25 mg. with meals 3-4 times a day for one week. If no response at that time, the dose may be raised to a total daily dose of between 150 and 200 mg. given in three to four doses with meals or milk. If there is no benefit after four weeks of therapy, the drug should be discontinued. Side effects include nausea, vomiting, peptic ulcers, headaches, sedation, mental confusion, and skin rash.[12,13,14,15]

Gold Salts—Chrysotherapy was first introduced for the treatment of rheumatoid arthritis in Europe. Its introduction to the United States followed shortly, bringing with it great waves of controversy which still exist. Controlled studies have shown gold salts to have a definite therapeutic value and some individuals consider them to be the treatment of first choice. The improvement is slow but is sustained. Chrysotherapy is most beneficial in the early active stage of rheumatoid arthritis.

The water soluble gold salts, gold sodium thiomalate [Myochrysine®] and gold thioglucose [Solganal®], are the two most commonly used preparations in the United States. They must be administered intramuscularly and are usually given initially at weekly intervals. The dosage schedules vary considerably among physicians but a rea-

sonable aproach would be: first dose, 10 mg.; second dose, 25 mg.; third through twentieth dose, 25 or 50 mg. There is usually no improvement until after the sixth injection. If there is improvement, the length of time between injections can be increased. A reasonable approach would be an injection every two weeks for two doses; then every three weeks for two doses; then monthly for an indefinite period as maintenance therapy. If after 20 injections there is no clinical benefit, gold salt therapy should be discontinued.

Gold salts have toxic side effects and it is of extreme importance that the physician be fully aware of them. The side effects include dermatitis, stomatitis, bone marrow depression, and renal disease. Blood counts and urinalyses should be performed before each injection, especially for the first several weeks. The drug should be discontinued if there is any side effect. Some physicians re-institute gold salt therapy at a later time using a smaller dose if there had been improvement of the arthritis and if the side effect was very mild and had subsided. If the toxic effect is severe, adrenocorticosteroids and/or BAL (British antilewisite) should be administered.[1,16]

Antimalarials — The antimalarials have been shown by controlled studies to produce a beneficial effect in patients with rheumatoid arthritis. They are less frequently used now than in the past because of the relatively rare but irreversible side effect of retinal damage. The two drugs most commonly used are chloroquine phosphate [Aralen®] and hydroxychloroquine sulfate [Plaquenil®]. They are slow-acting and a beneficial effect is usually not seen for one to three months. Higher doses have been given in the past but at present it is suggested that the daily dose not exceed 250 mg. for chloroquine and 200 mg. for hydroxychloroquine. Side effects include skin rash, gastrointestinal disturbances, myopathy, bleaching of hair, alopecia, hallucinations, mental depression, leukopenia, corneal deposits which are reversible, and the previously mentioned irreversible retinal damage which includes macular degeneration and blindness. The retinal lesion may progress after the drug has been discontinued.[1,17,18]

Adrenocorticosteroids — Hench and his associates in 1949 demonstrated the dramatic effect of cortisone acetate and corticotropin on rheumatoid arthritis. This touched off one of the most controversial issues now existing in medicine. One thing that can be said without likelihood of rebuttal is that if the steroids have failed as therapeutic agents, they have served a striking role in stimulating research and investigation in the field of rheumatic diseases.

The synthetic compounds, prednisone and prednisolone, were introduced for the treatment of rheumatoid arthritis in the late 1950's. Prednisone is the most widely used steroid. It produces very little disturbance in salt and water metabolism but retains the unfavorable side effects of cortisone and hydrocortisone such as Cushing's Syndrome, diabetes mellitus, infections, euphoria, peptic ulcer, osteoporosis, psychoses, posterior subcapsular cataracts, suppression of adrenal function, and possibly arteritis. Other synthetic steroids developed subsequently include methyl prednisolone, dexamethasone, triamcinolone, paramethasone, and betamethasone. Even though the effective dose is smaller in these newer compounds, the incidence of side effects is not reduced and none of these seem to have any real advantage over the much less expensive compound, prednisone.

Systemic steroids should never be administered initially. The indications for their use should be most stringent and they should be used only when the basic programs previously described have failed. Ten milligrams of prednisone daily in divided doses should be the maximum amount used in the treatment of rheumatoid athritis. The goal

is to have a functionally effective patient and not necessarily one whose rheumatoid arthritis is completely suppressed. The steroid dose should be kept as low as possible. The drug should never be stopped abruptly and when the physician tries to taper the dose, it may have to be done in increments of one milligram every week or two.

It should always be remembered that the administration of systemic steroids will cause suppression of the adrenal glands and if these patients are subjected to periods of stress, such as surgery or infections, it will be necessary to administer a parenteral preparation. This is best done with cortisone acetate given intra-muscularly and/or hydrocortisone given intra-venously.[1,19,20,21]

Intra-articular Adrenocorticosteroids — Aspiration of a joint followed by the intra-articular injection of hydrocortisone or one of its esters may be quite helpful in the management of rheumatoid arthritis. The benefit is temporary and lasts from several days to several weeks. Depending upon the size of the joint, 12.5 to 50 mg. may be injected. Good sterile techniques should be used.

Summary

1. The management of rheumatoid arthritis involves a treatment program of some complexity.

2. The basic program includes aspirin or some other salicylate, physical therapy and simple orthopedic procedures.

3. Anti-inflammatory drugs should be used to supplement the basic program when necessary. The advantages and disadvantages of each have been discussed.

4. No rigid set plan of drug therapy should be followed. A program which proves beneficial in one patient may not in another and there would be no need for the long list of medications previously discussed if each one was effective in all cases.

5. If one method of approach does not prove effective, another should be pursued.

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Recent Immigration to the United States

The new immigration laws that became effective at the end of 1965 and 1966 have brought about an increase in immigration to our country. The number of immigrant aliens entering the United States has risen from an average of about 290,000 annually during the years ended June 30 of 1961-65 to 323,040 in 1966 and to 361,972 in 1967. Moreover, immigration appears to be continuing at a relatively high level. Although the current volume of immigration is the largest since 1924, the influx was much greater in the first two decades of this century: between 1905 and 1914 there were six years when more than a million people entered the United States.

Historically, persons of European origin made up the majority of our immigrants. But their proportion has dropped from one half a decade ago to little more than one third in 1967. That year immigrants from the British Isles made up 7.1 percent of the total immigration, while those from East and West Germany only 4.6 percent. In contrast, immigration from Greece and Portugal has increased substantially. The proportion from the former increased from an average of 1.3 percent annually during 1961-65 to 3.9 percent in 1967, and from the latter from 1.0 to 3.7 percent.

During the past few years immigrants from Asia have come in large numbers because of the less restrictive provisions of the new immigration laws. The proportion of immigrants whose last permanent residence was in Asia rose from an annual average of 7.2 percent during 1961-65 to 15.9 percent in 1967. Although Hong Kong and the Philippines were the main sources of these increased entries, Taiwan, The Peoples Republic of China, and India also contributed to the total.

—Metropolitan Life Statistical Bulletin, September 1968

Athletic Head and Spinal Injuries

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Athletic injuries to the head or spine are most often benign but some result in serious complications. It is best to "play it safe" when dealing with these injuries.

IN THIS ERA of strong emphasis on physical fitness among the young and also among the not so young, injuries associated with all kinds of athletic activities have become increasingly more frequent. Physical fitness has almost become a slogan with social, educational, and even political overtones at times. Increasing emphasis brings increasing participation as well as interest in all its phases. Injuries resulting from these activities must therefore be well understood, not only by the physician, but also by all members of groups participating in such activities. No doubt, prevention would be the preferable and the most efficient way to deal with them. However, the subject of this presentation is most specifically directed toward the handling of an injury affecting the head as well as the spine in the first few minutes and hours following the accident. Specialists in various fields of medicine have learned to work as a team when an individual is brought to the emergency room of a well equipped hospital. In most cases, when the extent of the injury is not well known from the very onset, a general surgeon usually heads the team, progressively turning over to the appropriate specialist the handling of a specifically more important injury.

There seems to be a particular mystery that somehow shrouds the handling of head and spinal injuries, not only among laymen, but also for many physicians. The knowledge of a few simple principles very often clears the picture adequately to allow good handling of the problem.

I am not aware of an athletic activity completely devoid of possible danger. The direct body contact or the impact from falling and striking the ground is one of the most common factors in injuries in football. Baseball not infrequently will expose a player, or even at times a bystander, to the blow of a pitched ball or the bat itself. Boxing needs very little emphasis as to the kind of blows exchanged towards victory, and the press has frequently brought news of a particularly fatal ending to such events. Javelin, as well as the discus, may produce penetrating wounds of the skull, and more rarely, of the spine. Serious injuries have not infrequently resulted from a golf ball hitting an unexpected human target. Similar injuries may very well occur in squash, either with the ball itself or the racket. Ice skating, basketball, and other activities will result in injuries from falling on the ground. In 1961, Schneider, from the University of Michigan, presented statistics relating to the death of fourteen players from injuries to the brain or spinal cord occurring in 1959 as recorded by the "Serious Injuries and Fatalities Committee of the American Football Coaches Association". Actually, there were 208 fatalities from either head or cervical cord injury reported to this group in the period from 1947 through 1959.

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Head Injuries

Let us first consider some phases of head injuries that may result from the above mentioned athletic activities.

Anatomically, the head is a closed, spherical, bony cage that somehow manages to balance itself over the cervical portion of the spinal column, and containing as well as protecting a most sensitive, vital, sophisticated organ. The most elaborate computer equipment available to industry today is unable to come close in performance to that of a few cerebral cells. This bony cage is covered with a well vascularized scalp separated from it only with a very thin, but very richly innervated and therefore sensitive membrane, the periosteum. Scalp lacerations, therefore, are usually associated with fairly extensive bleeding, as well as pain arising from the injured periosteum.

The skull itself can be subjected to mainly two kinds of fractures: a linear fracture, which is simply a hair-line separation without loss in the curvature of the skull itself. Not infrequently, multiple linear fractures may be present and rather irreverently the term "egg shell fracture" is used to illustrate the findings on x-ray. It is interesting to note that head injuries due to a same degree of blow are less serious when associated to a skull fracture than otherwise. Most of the force seems to be absorbed by the fracturing of the skull and less is transmitted to its contents with less chance, therefore, of direct injury to the brain itself. There should be little concern, therefore, for the skull fracture per se. The complications that may go along with it are what we really worry about. A linear fracture most of the time brings about nothing more than a headache of a few hours to a few days' duration, but careful observation in a hospital with specialized medical personnel available is indispensable. Occasionally an artery will have been interrupted by the fracture, with formation, fairly rapidly, of a blood clot between the bone and the underlying membrane that covers the brain, the dura mater. This results in the so-called epidural or extradural hematoma. The individual may be awake for one to several hours and then quite rapidly lapse into unconsciousness, weakness on the opposite side, a dilated pupil, respiratory difficulties, etc., necessitating a very prompt surgical precedure for evacuation of the clot as well as the occlusion of the bleeding artery. This is the kind of head injury most frequently responsible for death following a direct blow to the head in boxing, baseball, etc. Even when the surgeon is able to evacuate the blood clot, stop the bleeding, and eventually prevent death, full recovery may not result. There may be residual paralysis, speech impairment, as well as intellectual deterioration.

The second type of skull fracture is known as a depressed skull fracture; it may or may not be associated to a laceration of the scalp over it, in which case it will be grouped under the name of compounded and depressed skull fracture. Unless such a fracture damages a large vessel, artery or a venous sinus, there is no definite urgency in surgical repair. It is preferable to give attention to whatever other injuries the individual may have and bring him to an optimum general condition before going ahead with the operation.

Most of the time, however, head injuries will not necessarily be associated with a skull fracture. The impact in these cases is directly transmitted to the brain itself and more serious complications may occur. Transient loss of consciousness, even of a few seconds, followed by complete recovery except for slight headache or dizziness, is the result of a brain concussion which is a very short-lived arrest in the cortical activity with no permanent damage to any part of the brain. When such damage does occur with some residual remaining, such as weakness, loss of memory, loss of speech, etc., then the term brain contusion is used. A more extensive amount of brain damage

can be due to a laceration of the brain itself with or without hemorrhage within its substance. Injuries of this type are associated with increasing degrees of swelling of the brain just like any other organ that has been injured. However, the space within the skull being definitely limited to the volume of the brain, any increase in its bulk will endanger its function, particularly when one considers that it will also slow down its blood supply and oxygenation with further production of edema in a vicious cycle. Therefore, not all head injuries followed by loss of function or consciousness are necessarily due to bleeding and the formation of an intracerebral or intracranial clot or hematoma.

How should we, therefore, watch an individual who has just been subjected to a head injury? What are the most important signs or symptoms to look for in order to give appropriate care?

It is rather simple. The most important thing to watch is the state of consciousness. We personally do not like to use words such as coma, semi-coma, stupor, etc., which do not always mean the same thing to everybody. It is best perhaps to describe reactions of the individual to his surroundings. The cerebral activity, when not allowed to go on normally, will result in decreasing degrees of awareness. The patient may be fully awake, well oriented in time and in space, alert, immediately following a blow to his head. Only in the subsequent minutes or hours would he slowly become drowsier, less active and responsive to questions. Or he may have been immediately rendered unconscious following the blow and remain so subsequently. This is most important and worthwhile noting, whether by the other team members, coach, the ambulance driver, or the nurse at the emergency room. Immediate and lasting loss of consciousness means immediate and serious brain damage due to cerebral swelling as well as hemorrhage within it. Whereas a progressive decrease of mental capacities towards complete loss of consciousness would be more in keeping with a developing subdural or epidural hematoma for which much more can and should be done as soon as possible. It will therefore be very helpful to the physician to know the individual's state of consciousness immediately following the injury.

The single most important advice, therefore, would be to observe the patient's alertness and response to questions and report immediately to the physician when this response becomes less easily obtained. Other symptoms and signs are known to be suggestive of increasing intracranial pressure, but I would like to re-emphasize that they are by far less important and useful than the state of consciousness. With the intracranial pressure increasing, the pulse rate slows down while the blood pressure increases, as the heart has to work harder to push the circulating blood through the cerebral vessels. Nausea and vomiting may occur, respirations may become irregular, and at late stages stop altogether. The pupil on one side, then the other, may dilate and be non-reactive to light. Hemorrhages may be seen within the eyegrounds. Epileptic seizures may occur and one side become weaker than the other, and so on. But most of these signs are rather late or difficult to observe by the layman.

A brief loss of consciousness may sometimes be associated with loss of spontaneous breathing. This usually is due to a concussion, with momentary decrease in cerebral activity, but no evidence of organic injury to the brain. The player should immediately be given artificial respiration and, unless a serious degree of brain contusion has occurred, he will be able to breathe again and awaken. He should then be allowed to slowly raise himself and should he again begin to faint, placed recumbent and withdrawn from the game. However, if he does feel well and is able to sit without discomfort, he may sit on the bench, but should be observed for the following minutes and hours. Of course, any scalp laceration that

may have occurred will be taken care of. Unless an extensive amount of blood has been lost from a large scalp laceration, shock or hypotension is almost never due to a head injury, and if this occurs, injury elsewhere should be suspected, such as a ruptured intra-abdominal organ, etc. Only after the cause for shock has been discovered and corrected should the head injury problem be considered and managed.

When the individual who has just been hit on his head has either remained, or become unconscious shortly after the injury, an adequate airway must be immediately obtained and maintained. It is useless to administer oxygen while, because of massive facial injury or swelling around the neck, etc., the patient is unable to receive it into his lungs and use it properly. The airway will be obtained either by a mouthpiece, or in more advanced stages a tracheotomy urgently performed and in these cases, definitely life saving. Suction will allow clearing of the upper respiratory airway; loose teeth or dentures should be removed, particularly when there is a tendency to vomiting. The patient should be turned on his side and slightly facing down in order to prevent further embarrassment of the airway by his vomitus. Quite often an airway will be improved by extending slightly the neck while pulling on the jaw.

The basic advice given to medical personnel in emergency rooms in the handling of head injuries is listed: 1. Establish a clear airway, 2. Treat shock, 3. Conduct a complete physical examination.

Once the airway has been obtained in an adequate fashion, the shock treated, and the patient examined, ancillary studies are available and frequently necessary to make a complete evaluation of the patient's head injury. Simple x-rays of the skull will demonstrate the extent and location of fractures and, particularly in cases of linear fractures and in individuals who are otherwise alert, warn towards the possibility of a developing extradural hematoma in the ensuing few hours. Hospital observation in these cases is definitely indicated. Special studies may then be carried out if the patient's condition allows. A recent device is the ultrasonic encephalogram. It helps detect any shift of the midline structures within the head to one side or the other as a result of a developing intracranial hematoma. Angiography, which visualizes the intracranial vessels by injection of a radiopaque material in the carotid artery in the neck, may suggest the location and the extent of a clot. Quite often, however, the physician is unable to carry out all these studies and his hand is forced into performing exploratory operations, namely burr holes, towards the discovery of a clot and its removal.

As mentioned above, head injuries, often may not be associated with any skull fracture and yet be serious enough to impair the patient's awareness, produce paralysis, or even epileptic convulsions. This is due either to simple swelling of the entire brain or to associated hemorrhages within its substance. This can occur immediately, in the following few hours, or sometimes three or four days after the initial injury. The above mentioned studies will help rule out a developing clot and these patients can then be treated by drugs capable of decreasing the amount of swelling (steroids, urea, mannitol). Occasionally, an individual who did well for several days or weeks following an injury may show signs of progressive neurological malfunction with resulting headaches, mental dullness, etc., and he will be found to be suffering of a subdural hematoma or hydrocephalus. This again will warrant careful observation by the physician. It is very unusual that this will occur beyond a few months following the injury.

An individual may have been subjected to a head injury mild enough to cause nothing more than a certain amount of headache and dizziness. This may last for several days, may or may not be associated to nausea and vomiting. It is usually important to reassure him that no serious complica-

tions have occurred and that recovery should be expected within a few days to a week. He will usually respond fairly well to rest, mild analgesics, etc. We do not believe that he should be allowed to participate in the usual athletic activities until he has fully recovered from the above mentioned effects of the head injury. Some individuals will tend to minimize while others will exaggerate their difficulties and this, of course, will require good insight into that particular individual by his family, his coach, as well as the physician himself.

Spinal Injuries

Let us now consider injuries that may involve the spinal column. For clinical purposes, the spine is divided into three main segments: cervical, dorsal and lumbar. The cervical spine is by far the most mobile and, therefore, most readily exposed to injury. Besides its role in supporting the body and allowing man to be an erect animal, the spine also contains and protects the spinal cord. It is very strongly supported by a multitude of sturdy ligaments and muscles which are very intimately inter-related. Injuries to any part of the spine, therefore, will affect muscles, ligaments, the spinal column, or the spinal cord itself in various combinations.

The most simple and benign injury will result in contusion of the muscles close to the spine at various levels with or without involvement of the intervertebral ligaments. The neck as well as the low back are more frequently involved, with resulting stiffness and pain of various degrees. Rest and immobilization of the involved levels, as well as mild pain medication, usually suffices to bring about a fairly rapid recovery. At times heat and application of traction may also be necessary. We believe that pain is a protective symptom that should be respected rather than ignored if more serious complications are to be avoided. This, of course, applies to all phases of medical management. Whether contusion involves the neck or the low back, an underlying injury to the spine itself should be ruled out with adequate x-ray studies and further follow-up. A more severe degree of injury is muscular and/or ligamental strain of the neck or lumbar area and would necessitate a more prolonged period of recovery and treatment. Most of the time an adequate degree of traction, particularly when the neck is involved, becomes necessary, following which the individual may have to wear a protective collar for several days or a few weeks. Traction seems to be less effective when the other parts of the spine are involved and would only result in keeping the patient in bed which is, of course, the main point of management.

A rather common occurrence in association to contusion or strain of the cervical or lumbar spine is a herniation of an intervertebral disc with subsequent pressure on a nearby nerve root producing severe pain and numbness as well as weakness of an arm or a leg on the same side. This may happen within a few days or sometimes several months to a few years after the original injury, following a definite weakening of the spine itself. After a reasonable period of conservative management involving bed rest, physical therapy, and other means, not infrequently surgery becomes necessary in order to prevent further disability as well as loss of function in terms of weakness and numbness of an extremity.

Injury to the spine can, of course, result in a fracture with or without dislocation. When the spinal cord is not involved paralysis does not occur and the patients eventually recover after a lengthy medical management that may at times require a surgical reduction of the fracture and fusion of the involved level in order to prevent further difficulties. The problem becomes most critical at the cervical spinal level where a subsequent injury may then involve the spinal cord itself with serious complications, such as paraplegia or quadriplegia. It is important to remember that a fracture-dislocation following an injury may, after careless

manipulation, result in injury to the spinal cord secondarily, with paralysis developing quite rapidly at that time.

When an individual has injured his spine, he should not sit up, but rest on his back and keep immobile. If he is awake, it will be most important to see whether he can move his arms and legs and breathe without difficulty. The location of the pain should also be noted. If the neck seems to be involved, the head can easily be immobilized by putting sandbags on either side or by gentle traction in the direction of his body applied under his chin and the back of his head. Whenever feasible, a physician should immediately examine the player on the spot, even if this requires delaying the game for several minutes. Only then should he carefully be moved to an adequate stretcher, producing as little motion of the patient's body as possible. The recent introduction of a two part metal stretcher that fits under the patient from either side and locks, has been a welcome addition to the equipment of life saving crews. If the individual is also unconscious, or even simply drowsy, the care should be multiplied as he would be unable to indicate the exact location of his suffering and maintain his airway.

The head, neck, and shoulder form a triangle which very frequently is involved in various combinations of its components. Whenever two of these elements are involved, the third should be strongly suspected of having been injured as well. For example, if there is evidence of injury to the head and shoulder, one should be very certain that the neck has not also been involved. This will, of course, avoid unnecessary manipulations with further complications. Neck injuries will occur in a variety of fashions. Acute extension or hyperflexion, forceful rotation of the head to one side, can all result in serious injuries. A particular concern has arisen from the head gear worn in football. There is no doubt that this piece of equipment gives definite protection against head injuries. However, by its very rigidity, it becomes a hazard when the neck is thrown in hyperextension with the back of the helmet against the spine, resulting in injury to the spinal cord as well. A new helmet has the plastic back of the neck cut away and replaced with an apron so that it is impossible for the edge of the plastic to impinge against the neck proper. A strip of plastic foam beginning at the forehead and extending up over the crown of the helmet and about six inches wide, serves as protection for the opposing player. It also has plastic pads inside. Some players have complained of this being somewhat hotter, but it certainly seems to be more protective. The single face bar for protection has in some cases been replaced by double ones which do not extend as far forward and reduce the leverage to some extent. They are harder to grasp because of the spread between the bars. The blocker is also less likely to get his elbow, shoulder, or knee under the bars since the lower one is considerably further towards the chest. Another alternative design has a sturdy extension from the back of the helmet towards the neck following its contour, protecting it from damage by hyperextension.

A not infrequent form of injury involves the sudden stretching of the brachial plexus by forceful pulling on one arm or a fall, putting all the weight on one shoulder. This results in avulsion of the brachial plexus with immediate paralysis or at least marked weakness of the involved arm. The spine itself is usually not involved in any way. These injuries may take several months to recover from and often may not allow full return of function. Adequate padding across the shoulders may decrease this possibility only to some extent.

In closing, we would like to emphasize that while injuries to the head or the spine remain, fortunately, most of the time benign and without serious complications, it is impossible to guess whether a particular incident will remain so or develop into a

(*Continued on page* 91)

The Expanding Role of Tympanostomy Tubes

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Much chronic middle ear infection and permanent hearing loss is being avoided by the use of tympanostomy tubes.

IN 1952, Armstrong[3] began using plastic tubes inserted through a myringotomized ear drum (tympanostomy) as a means of treating secretory otitis media (SOM) by aeration of the middle ear. The purpose of this article is to relate some of the author's impressions as to the use of tympanostomy tubes in SOM and other closely allied otologic problems. (See recent article with a comprehensive review of the subject by Fitz-Hugh.[1])

SOM has been defined by Hoople[2] as a condition in which the middle ear is filled with sterile fluid which may vary from a thin, serous fluid to a heavy, thick mucous mass. It is most commonly seen in children. Armstrong[3] found that of 1,016 cases, 78% were eight years old or younger. Ivstam[4] found 58% of his cases were under 15, and Sueh[5] noted 43% of his patients to be less than 10 years of age. The disease is usually bilateral, although both sides are by no means involved to the same degree and frequently one ear may need more vigorous treatment than its opposite fellow.

Any condition which tends to compromise the normal function of the eustachian tube may be a factor in the production of middle ear fluid. Such things as upper respiratory tract infections, allergies, enlarged adenoids, nasopharyngeal malignancies, barotrauma, palatal defects, tubal muscular paralyses, or local trauma may be responsible. Therapy must be directed at the underlying cause, but there is no justification for a program that includes long-term diagnostic and therapeutic steps related to treating the eustachian problem, while allowing the ear symptoms to go unchecked. On many occasions eustachian function recovery is a very long, drawn-out process. Certainly in many instances it seems advisable to insert the tubes and to concomitantly treat and evaluate the patient. This is particularly true in view of the minimal complications involving the use of these tubes, relative to the good to be gained in their use in the vast majority of selected instances.

Tubes do not treat the underlying eustachian tube dysfunction, but they do gain time for the ear, preventing symptoms and reducing complications. The patient is able to pursue his or her normal course of activities except that this author does not permit swimming. A few otologists allow swimming, but it is generally felt that moisture in the middle ear is to be avoided.

Many types of tympanostomy tubes can be used. They can be of polyethylene, vinyl, silastic or teflon. The author prefers a teflon tube whose inside diameter is .035 inches for children and .045 inches for adults. A flange is on the end of the tube that fits through the myringotomy into the middle ear. This flange helps prevent extrusion of the tube into the external ear canal.

The technique requires an antero-inferior myringotomy large enough to remove the fluid by spot suction. This site is chosen because there is less ear drum epithelial migration here than postero-inferiorly, thus helping to maintain the tube in place. If the fluid is quite tenacious, a second myrin-

gotomy is done postero-inferiorly, and suction likewise applied. The use of the second myringotomy has been most advantageous in removal of viscid fluid because the second myringotomy allows for the ingress of air, and therefore displacement of the fluid which would be impossible to remove in an otherwise closed system.

Frequently effusions of the middle ear are not fluid at all, but represent a gel with a large mucopolysaccharide content, presenting a special rheological behavior not corresponding to the newtonian behavior of fluids.[6] On these occasions it is impossible to suction the middle ear cleanly and much of the effusion remains in the attic, aditus and mastoid air cell areas. In cases where the fluid is particularly thick and double myringotomies are utilized, the author has then inserted two tympanostomy tubes in one ear drum, one antero-inferiorly and one postero-inferiorly. The rejection of one of these two tubes by the ear frequently leaves the second tube undisturbed, and it is indeed in those cases where two tubes have been used that long-term middle ear ventilation has been greatly desired, and the persistence of the second tube has been quite rewarding. No complication has been yet noted by using two tubes. Each ear drum has healed spontaneously with the exception of a single case in a post-operative tympanoplasty which will be mentioned later.

The author uses general anesthesia for children and local anesthesia for adults. An operating microscope is essential. With this approach the tubes can be placed exactly and, at the same time, the operator is given a splendid opportunity for a thorough examination of the ear with controlled painless ease. An example of pertinent serendipity is that of a previously unsuspected tiny cholesteatoma being noted just anterior and superior to the latter process of the malleus in a patient with SOM. The cholesteatoma was notable only by the smallest speck of debris. The mouth of its sac was less than 1 mm in diameter and when removed it measured 2 x 3 mm in toto. It was removed by cutting the epithelium around the neck of the sac and inserting gelfoam medial to the everted epithelial edges of the resultant perforation. Furthermore, extensive lysis of adhesions which may be noted between the drum and the promontory or the incudostapedial junction may be undertaken. At that same time gelfoam may be inserted between the drum and the adherent areas. This, plus the maintenance of middle ear ventilation by the tubes, may well abort further adhesive processes.

It has been satisfying to observe that children with recurrent acute purulent otitis media have benefited greatly by these tubes. In spite of recurrent colds in children who have had one attack of acute purulent otitis media after another, the painful febrile middle ear problem is avoided or reduced by having tubes in place. The middle ear mucosa may be inflamed but pressure symptoms are largely or completely avoided by what could be considered as an ever-present myringotomy. Purulent otorrhea does occasionally occur in patients with these tubes, but usually the tubes are left intact after the usual conservative treatment, which includes antibiotic ear drops. The tympanostomy allows for faster middle ear clearance with consequently quicker healing.

The tubes are usually left in place for four to six months unless they spontaneously come out. In the latter case, adequate follow-up examination is maintained to see whether or not there is recurrent fluid. After insertion of the tubes, patients are usually seen monthly. Usually the tubes can be removed in the office, but occasionally because of discomfort a child may have to be anesthetized.

It is important in adults who have recurrent SOM to rule out insidious malignancies of the nasopharynx by persistent examination of the nasopharynx, neck, and nose, and concise history taking. X-rays of the skull also may be indicated. In patients with known nasopharyngeal malignancies, tubes

have afforded great comfort and good hearing instead of annoying ear symptoms usually expected.

It is now being noted that certain tympanoplasty procedures may give the patient a fairly nice-looking ear drum and good hearing, but that with time the new ear drum may show signs of retraction into the attic and over the promontory. This, of course, indicates that the original pathology that required the reconstructive work still exists—namely, eustachian tube dysfunction. Tubes are used here also, but one must realize that this new ear drum is by no means as strong as the original one and that surgical interruption in drum continuity may predispose to disruption of considerable degree. One incidence in our experience involves a child who had a 90% perforation repaired in 1965 at the age of five, utilizing temporalies fascia only. Incidentally, this child was found at the time of the first operation to have a total unrelated hearing loss of neurosensory nature in the opposite ear, and I felt that the least possible chances of complication from operating the good ear would be with fascia alone, denuding the epithelial edges of the drum remnant. Unfortunately the usual good follow-up was not adhered to and when seen subsequently, about two and a half years after the original procedure, the new ear drum was intact, but it was retracted and thinned. No adhesions were noted. Double tympanostomy tubes were employed here in an attempt to counteract the retraction, but over a period of four months the new ear drum essentially dissolved and the child was left with an 80% perforation.

There has long been a question in cleft palate work as to whether or not the tonsils and adenoids should ever be removed. Frequently the question of whether or not to do a T&A has been related to ear disease. Without attempting to go into the various indications insofar as a tonsillectomy and/or adenoidectomy are concerned, one might observe that the use of the tube may provide a way whereby the otologist can treat middle ear disease without having to disturb the tonsils or adenoids. This in itself offers great promise, a way to "have your cake and eat it too."

In summary, the concept of the tympanostomy tube has by its nature been given a vital spot in the defense of the ear. This represents another example of the continued development and utilization of a basically sound idea in medicine.

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Acoustic Neurinoma

The Importance of Early Diagnosis

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Thorough investigation of early symptoms will lead to the diagnosis of acoustic neurinoma while the tumor can still be completely and safely removed. The suboccipital approach is the method of choice and, in most cases, the facial nerve can be spared.

RECENT ADVANCES in audiology and neuroradiology have made possible the early diagnosis of acoustic neurinomas. These tumors which, when large, present a formidable surgical problem are easily removed when small. Thorough and prompt evaluation of patients with unilateral hearing loss or tinnitus, as outlined by House and Hitselberger,[1] is necessary if early diagnosis is to be made. The following case is illustrative.

Case Report

N.A. (UVA #352835), a 52 year old school teacher, had been in good health until eight months prior to admission when she noted difficulty hearing while listening on the telephone with the left ear. Eight weeks before admission she consulted her family physician because of continuous buzzing tinnitus on the left. She had no headache, nausea, nor vomiting.

Physical examination revealed a healthy appearing, middle-aged, white woman whose blood pressure was 110/80. The only abnormal finding was diminished hearing on the left with lateralization to the right on performing Weber's test. Rinne's test demonstrated air conduction to be greater than bone conduction on the left. Routine laboratory examinations, including hemogram and urinalysis, were all within normal limits. A pure tone audiogram showed a sensorineural hearing loss on the left of 65 decibels at frequencies between 1,000 and 8,000 cps. Electronystagmography demonstrated that labyrinthine function on the left was definitely diminished. A Bekesy audiogram was technically unsatisfactory. The speech discrimination score was 36 per cent with the left ear, 92 per cent with the right. Tone decay was present on the left



Fig. 1. Laminogram showing widening of left internal auditory meatus.

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and no recruitment was demonstrable. The short increment sensitivity index (SISI) was 95 per cent at 2000 cps. Roentgenograms of the skull revealed that the left internal auditory canal was definitely larger than on the right (Fig. 1). No erosion was seen, however, and although the difference in size was



Fig. 2. Cisternogram demonstrating Pantopaque defect adjacent to the left internal auditory meatus.

suggestive it was not diagnostic. A Pantopaque cisternogram (Fig. 2) revealed a small filling defect adjacent to the left internal auditory canal, well defined and rounded with amputation of the normal sleeve of the subarachnoid space which usually enters the canal. The diagnosis of left-sided acoustic neurinoma was made.

Operation

The tumor was approached through a left suboccipital craniectomy. The mass was easily visualized and found to be less than a centimeter in its longest diameter. Portions of the cochlear division of the eighth nerve could be seen splayed out over the posterior portion of the tumor. The vestibular division of the eighth nerve could not be identified. The facial nerve was easily demonstrated, and the tumor was peeled off the nerve without difficulty. A blunt nerve hook was inserted into the internal auditory meatus, and the tumor teased out in toto (Fig. 3). The patient promptly

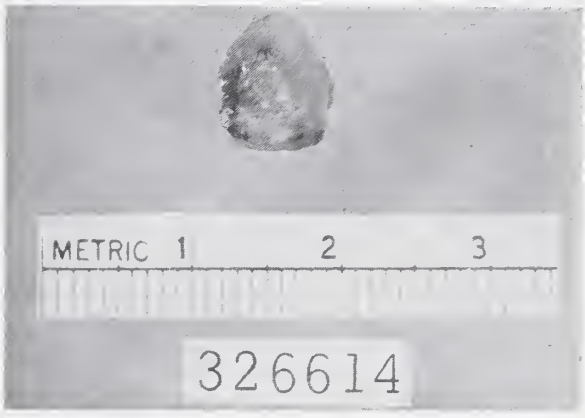


Fig. 3. Entire acoustic neurinoma measuring 9.7 mm. in greatest diameter.

awakened from the anesthetic and facial nerve function was noted to be normal (Fig 4). Mild dysphagia, which was present immediately post-operatively, cleared over the following few weeks and convalescence was continued without complication. She has since returned to work as a school teacher and is asymptomatic. Microscopic examination of the tumor revealed a typical acoustic neurinoma (Fig. 5).

Discussion

Acoustic tumors have long presented a difficult neurosurgical problem. Revilla[2] reported that Dandy's twenty year operative mortality rate was 22 per cent. With the improvement of anesthesia and surgical techniques, operative mortality has steadily decreased. In Pool's[3] series of 43 cases (1948-1956) the operative mortality was 16.2 per cent. In a recent series reported by Drake[4] not only had the mortality rate dropped to 13 per cent but the facial nerve was preserved in all but five of the 30 patients. All



Fig. 4. Postoperative photograph of patient showing normal left facial nerve function.

of Drake's tumors were approached through a suboccipital craniectomy and all but two of the tumors were large, involving cerebellum as well as cranial nerves 5, 8, 9 and 10.

Various novel surgical approaches have recently been described by House[5] including translabyrinthine, transtemporal, and a combined translabyrinthine and suboccipital technique. The translabyrinthine technique was designed primarily to allow sparing of the facial nerve. It is a wholely inadequate method if the tumor is large, because complete removal is impossible or dangerous. The translabyrinthine approach does not allow adequate exposure of the medial portion of a large neurinoma adjacent to the pons. In this area the tumor and the pons may share a common blood supply. The arteries involved can be exposed adequately only with a suboccipital craniectomy. One of the major causes of death following acoustic neurinoma excision is softening of the pons because of destruction of blood vessels shared by both the tumor and the pons.

Drake[6] has solved the problem of sparing

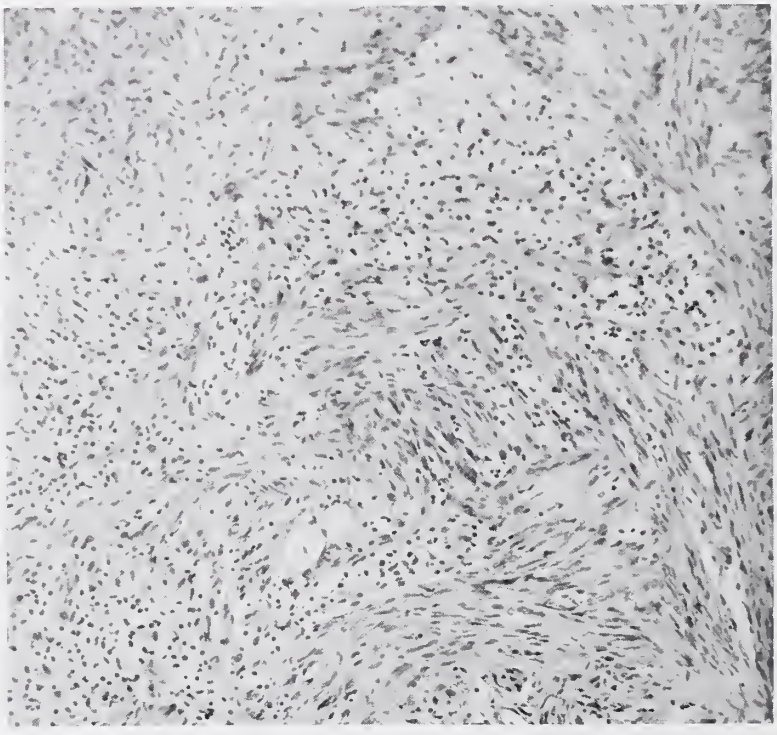


Fig. 5. Typical microscopic structure demonstrating both Antoni type A and B cells. H & E x 118.

facial nerve function using a suboccipital exposure by initially dissecting the intrapetrous portion of the tumor away from the facial nerve. With small tumors, using this technique, the preservation of facial function can be expected. With large tumors there is no technique that can guarantee facial sparing in every case. There is no question, however, that safe total removal of a large acoustic tumor is only possible via a suboccipital approach.

House[1] has made a significant contribution to the field of neurinoma surgery through his emphasis on the methods of early diagnosis. Because of the better prognosis for small acoustic tumors, particularly in regard to facial nerve preservation, every effort at early diagnosis should be made. Any patient complaining of unilateral hearing loss or tinnitus should have a thorough audiometric evaluation including pure tone and Bekesy audiograms, speech discrimination, short increment sensitivity index (SISI), tone decay, and alternating binaural loudness balance (ABLB) tests. Finally, one of the most significant factors in lowering the morbidity and mortality of acoustic neurinoma surgery is an informed medical community with a high degree of suspicion allowing prompt diagnosis and treatment.

Summary

The importance of early diagnosis and surgery in dealing with acoustic tumors has been discussed. The suboccipital approach has proven superior to other methods in that it allows safe, complete removal of small or large tumors. In most cases the facial nerve can be spared using Drake's technique. An illustrative case is presented.

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ATHLETIC HEAD AND SPINAL INJURIES
—Botton

(*Continued from page* 84)

more major catastrophy. It will therefore be best to "play it safe" and to ascertain as much as possible the exact nature of the injury rather than allowing a player to return to the game towards an early victory and perhaps a delayed defeat. One should also avoid the opposite extreme of overprotecting a child who has suffered, let us say, a moderately severe head injury, from which he has been declared recovered by his physician but who may well become a mental cripple by not being allowed to return to normal activities with his friends and school mates.

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Defibrination Syndrome in Rocky Mountain Spotted Fever

A Case Report with Heparin Therapy

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This report describes a patient with Rocky Mountain Spotted Fever and the defibrination syndrome. Chloramphenicol controlled the infection and relieved the coagulation disorder. It would appear that the defibrination syndrome is an integral part of Rocky Mountain Spotted Fever.

THE OCCURRENCE of thrombocytopenia[1-5] in Rocky Mountain spotted fever is now a well-recognized complication of the disease. Hypofibrinogenemia[3] has been reported rarely. Pathologically, the disease is characterized by widespread vasculitis induced by the rickettsial organism and associated with intravascular thrombosis.[6] The present report describes a patient with Rocky Mountain spotted fever and the defibrination syndrome. Heparin therapy[7] which is advocated for diffuse intravascular thrombosis secondary to a variety of disorders failed to alter the coagulation profile. Chroramphenicol in controlling the infection resulted in the amelioration of the coagulation disorder.

The views expressed herein are those of the authors and do not necessarily reflect the views of the United States Air Force or the Department of Defense.

Dr. Deep is now located in Richmond, Virginia.

Case Report

The patient, a 43-year-old-white, widowed housewife, was transferred to the USAF Hospital Keesler from Columbus AFB, Mississippi, on 30 March 1967 with the probable diagnosis of Rocky Mountain spotted fever. She presented at the Columbus clinic on 22 March with a temperature of 103°F and a macular rash which appeared first on her wrists and ankles. Two days prior to admission epistaxis occurred and the rash became petechial affecting the palms, soles of her feet and trunk. Progressive deafness, headache, myalgias and photophobia were later noted. She emphatically denied tick bite.

Upon arrival at Keesler Hospital she appeared acutely ill but lucid. The blood pressure was 104/60 mm Hg, pulse 104, and temperature 102°F rectally. A petechial rash was present involving the palms, soles of her feet and trunk with relative sparing of her face. (Fig. 1) The neck was supple. Funduscopic examination was normal. Auscultation of the heart revealed a regular tachycardia but no murmurs were heard. The lungs were clear. The liver was palpated 6 cm below the right costal margin and the spleen 4 cm below the left costal margin.

There was no Brudzinski or Kernig sign and the neurological exam was normal.

Laboratory data on admission: hemoglobin 13.0 grams per 100 cc, WBC 20,000 per cubic millimeter with a shift to the left; the polymorphonuclear leukocytes contained toxic granules and Dohle bodies. Platelets were 70,000 per cubic milimeter. Blood coagulation studies are listed in table 1. The Bun was 50 mg per 100 cc. Electrolytes were normal initially but hypokalemia and a combined metabolic acidosis—respiratory alkalosis developed. CSF protein was 100 mg per 100 cc. Bacteria were not demonstrated on gram stain. The cell count was normal. Culture of the CSF was sterile. Chest x-ray was normal. The ECG revealed sinus tachycardia with non-specific ST-T wave changes.



Fig. 1. Photographs of the hands and feet of a patient with Rocky Mountain spotted fever.

TABLE 1

Hematologic Data on a Patient With Rocky Mountain Spotted Fever

	30 March	31 March	2 April	4 April	10 April
Hemoglobin	13.0 Gms.	9.2 Gms.		9.0 Gms.	9.5 Gms.
WBC	20,000				4,200
Platelets	70,000 (Normal 150,000-300,000)	79,000	102,000	115,000	200,000
Prothrombin Time	21 Sec. (Control 13 Sec.)	20 Sec.	18 Sec.	18 Sec.	13 Sec.
Partial Thromboplastin Time	59 Sec. (Control < 35 Sec.)				33 Sec.
Fibrinogen	10 Mg.% (Normal 250-500 Mg.%)	55 Mg.%	50 Mg.%	145 Mg.% (After 6 Gms. I.V.)	257 Mg.%
Euglobulin Clot Lysis	None at 24 Hrs.				
Thrombin Time	12 Sec. (Normal < 6 Sec.)				6 Sec.
OX-19 (Significant > 1:30)		1:320			

The impression on admission was Rocky

Mountain spotted fever or meningococcemia with intravascular thrombosis supported by the long partial thromboplastin time, long prothrombin time, long thrombin time, hypofibrinogenemia and thrombocytopenia. Therapy with Chloromycetin I.V. 6 grams per 24 hours and aqueous penicillin 20 million units per 24 hours was begun. On the second hospital day she reported that she had remembered removing a tick from her body about two weeks prior to admission. The Weil-Felix (OX-19 reaction was reported positive in a titer of 1:320. Accordingly, penicillin was discontinued. Heparin was then added in a dosage of 75 mg I.V. every six hours. The platelet

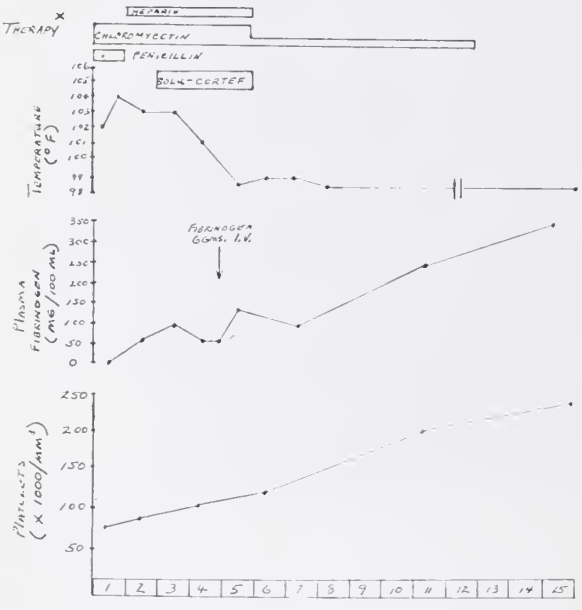


Fig. 2. Course in relation to temperature, plasma fibrinogen, platelet count and therapy.

count slowly rose above 100,000 per cubic millimeter but the fibrinogen concentration remained low. On the third hospital day Solu-Cortef 300 mg per twenty hours I.V. was added because of apparent deterioration in her condition as manifested by disorientation, choreiform movements and plantar extension signs bilaterally. Fibrinogen 6 gms in twenty-four hours was infused on the fourth hospital day with subsequent rise in plasma fibrinogen concentration. Fresh whole blood was given because the hemoglobin fell to 9.0 grams. By the fifth hospital day there was a dramatic improvement in her condition with fall in temperature to normal and resolution of neurologic signs. Heparin and Solu-Cortef were then discontinued, and Chloromycetin was given orally in a dosage of 2 grams per 24 hours. Thereafter, all coagulation tests became normal, and the patient made an uneventful recovery except for a mild anemia which was felt to be secondary to the overwhelming infection or Chloromycetin therapy.

Discussion

The presence of thrombocytopenia with reductions in factors I, II, V and VIII, normal euglobulin clot lysis and prolonged thrombin time are characteristic of diffuse intravascular coagulation.[7,8] Acquired hypofibrinogenemia has been well described in association with a wide variety of disorders[9] including obstetrical complications, burns, transfusion reactions, carcinomatosis and septicemia. Trigg[3] and Atkin et al.[5] first described its occurrence in Rocky Mountain spotted fever but did not attempt to correct the disorder with Heparin. Merskey et al.[7] have described in detail the pathogenesis of this disorder and the efficacy of heparin therapy.

Although heparin may have partially arrested intravascular thrombosis with a rise in platelet count, there was no significant correction of hypofibrinogenemia or the long prothrombin time. It was not until the infusion of fibrinogen that the plasma concentration returned to normal and remained there. Concomitantly, Chloromycetin therapy in arresting the infection was probably instrumental in correcting the coagulation disturbance.

The exact incidence of intravascular thrombosis with the defibrination syndrome in Rocky Mountain spotted fever cannot be assessed from a review of the literature. Schaffner et al.[4] found that 40% of the patients admitted to the Vanderbilt Hospital with Rocky Mountain spotted fever

had thrombocytopenia at sometime during their illness. Trigg[3] concluded that his patient, a 12-year-old girl with thrombocytopenia and hypofibrinogenemia in Rocky Mountain spotted fever, had defibrination. Abnormal prothrombin times can be found in a review of isolated case reports[6,10] and in a standard textbook of medicine.[11] It is interesting to postulate the presence of defibrination in those cases with thrombocytopenia and abnormal prothrombin times as the sole manifestations of the disorder. Perhaps had other coagulation tests been performed the characteristic deficiency pattern would have been demonstrated.

Summary

A case of Rocky Mountain spotted fever with intravascular thrombosis and the defibrination syndrome is described. Treatment with Chloromycetin was instrumental in controlling the infection as well as the coagulation disturbance although heparin was administered concomitantly. It would appear that the defibrination syndrome is an integral feature of Rocky Mountain spotted fever.

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Huge Ovarian Cyst with Torsion in a Newborn Infant

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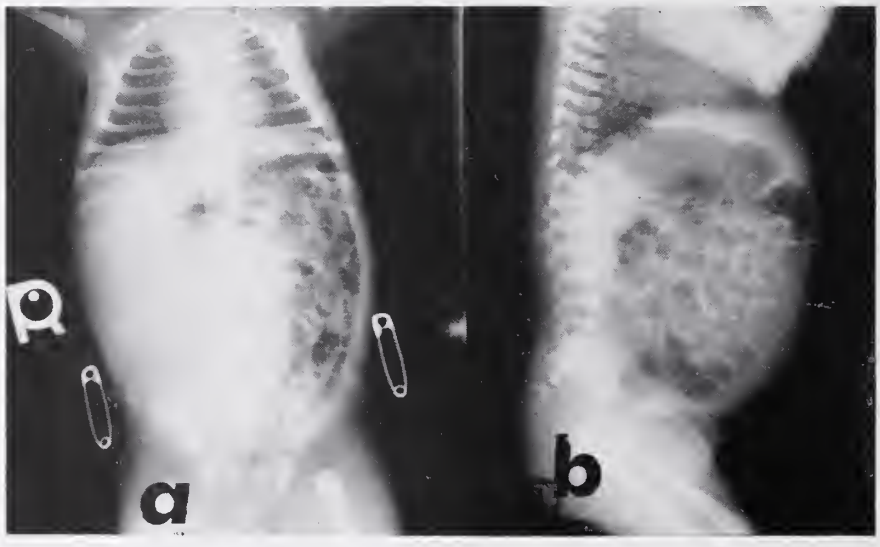
The presence of an ovarian cyst with torsion in a newborn infant is quite rare. This case illustrates the need for surgery as soon as the condition is suspected.

OVARIAN ENLARGEMENTS in the first year of life are very uncommon. Of the 45 reported cases reviewed by Marshall,[1] et al., 29 were in newborns and 16 were in infants between the age of one month and one year. Six of the twenty-nine newborns were perinatal deaths, either stillborn or dying at birth. Torsion of the ovarian mass occurred in five of the 29 newborns (two in stillborns) and also in five of the 16 older infants. Thus the incidence of torsion after the first month is about twice that during the newborn period.

We would like to report another case of ovarian cyst in a newborn with torsion resulting in shock and death.

Case Report

This 6-pound, 1-ounce girl was delivered on July 26, 1967, by low forceps of a healthy 19 year old para I, gravida II, after 36½ weeks of gestation. The pregnancy was uneventful and the only complication of labor and delivery was a premature sep-



Films A and B. AP and Lateral films shortly after afterbirth, showing a large soft tissue density filling the right and mid abdomen, extending to the anterior abdominal wall, apparently continuous with the right pelvis and displacing intestinal structures to the left.

aration of the placenta of approximately 30%.

The infant cried spontaneously and was thought to be in excellent condition. However, on the initial physical examination in the nursery, it was thought that the abdomen appeared slightly distended. There was no definite mass palpable, however, and the rectum was patent, easily admitting the entire little finger without obstruction. The



Film C. Representative film from an IVP, reveals the renal collecting systems to have normal configuration and position; subsequent films in this series showed a normal bladder contour.

rest of the physical examination was within normal limits.

X-rays, films A & B, showed a homogeneous density in the right abdomen displacing the intestines to the left. An intravenous pyelogram, film C, showed normal appearing calyces, pelves and ureters without any displacement. Wilm's tumor of the kidney and neuroblastoma of the adrenal gland were thought to be ruled out.

Re-examination of the infant to rule out hydrometrocolpos was carried out. The hymen was patent and no pelvic mass could be felt on a rectal bimanual examination. The infant passed meconium at age eight hours. She was given lactose water at 12 hours and milk formula at 24 hours. She sucked well and there was essentially no vomiting. Her stools became transitional. She appeared to be a healthy baby, progressing in a normal manner during the first three days of life.

A surgical consultant saw the child on



Film D. Film obtained shortly before death, showing absence of bowel gas, distention of the stomach, and a somewhat diffuse ground glass appearance over the abdomen.

the first day of life and felt that the most likely diagnosis was an intra-abdominal cyst, either mesenteric or omental. (A hospital resident suggested ovarian cyst as the most likely diagnosis.) Exploratory laparotomy was scheduled for the fifth day of life since the body was asymptomatic.

At age 72 hours, the infant rather suddenly went into shock. The color became ashen and the respirations were rapid and shallow. The femoral pulse was weak. The lung fields were clear to auscultation. The

heart sounds were of poor quality and a tachycardia was present with a rate of 160. The body temperature dropped to 97.6 degrees (rectal), then later to 94.8 degrees (rectal). A blood culture was taken which, three days later, showed a growth of pseudomonas. Examination of the abdomen was the same as before except for perhaps some rigidity which had not been present. A repeat x-ray of the abdomen, film D, showed a complete loss of differentiation of the viscera and only a large stomach bubble was seen. Ascites or peritonitis was the suggested diagnosis.

Obviously, the infant was not a good surgical risk and attempts were made to improve her condition with intravenous fluids. In spite of this, the child continued to deteriorate and she died at age 82 hours.

Pathology

Autopsy findings (A-43-1967):—

A four day old white female infant, weighing six pounds and measuring 19 inches in length.

Externally, except for cyanosis of lips, no remarkable changes.

Upon opening the body, no fluid was found in the serosal cavities and no evidence of peritonitis.

Heart, spleen, liver, adrenals, kidneys, bladder, G.I. tract, thymus—no remarkable changes.

Lungs—markedly congested.

External genitalia — no remarkable changes.

Internal genitalia—uterus normal in size.

The right ovary is slightly enlarged and cystic. The left ovary is replaced by a huge cyst measuring 10 cms. in diameter and twisted 360° around its attachment and displaced to the right side of the abdomen. The wall of the cyst is thin, almost translucent and contains serosanguinous fluid.

Microscopic findings

Congestion of lungs, liver and spleen.

Serial and step sections of the cyst wall show the lining epithelium consistently of one layer of melanin bearing primitive cells. The supporting tissue is a loose homogeneous young neuroepithelial stroma rich in blood vessels. Fontana stains for melanin pigment are positive. Prussian blue stains for iron content were by contrast negative.

Comment

On review of literature, there are only five cases of cysts with torsion in the newborn. These are shown in table I:

Table I

Ovarian Cysts with Torsion in Newborn

Source	*Pathologic Diagnosis*	*Comment*
Franque, 1909	Simple cyst, torsion	Stillborn
Sun, 1951	Simple cyst, torsion	Stillborn
Longino, 1958	Cysts, torsion, hemorrhage	Oophorectomy
Karrer, 1961	Follicle cyst, torsion, Gangrene	Oophorectomy
Boles, 1961	Follicle cyst, torsion	Oophorectomy

There are basically four types of ovarian enlargement in infancy:[1]

1. Cysts of either germinal or Graafian epithelial origin; 2. Granulosa cell tumors, either benign or malignant; 3. Benign cystic teratomas and 4. Mesonephroma.

The case presented here probably falls into the teratoma group since it contains neuroepithelial tissue resembling retina.[5]

In the present case it was unfortunate that immediate surgery was not carried out after the diagnosis of an intra-abdominal mass was made. Both surgeon and pediatrician felt they could defer exploration for a few days since its presence seemed to be causing no difficulty at the time. It is well known that age is no factor in a newborn's ability to withstand major surgery. Therefore, in the case of any intra-abdominal mass in a female newborn in which the diagnosis of ovarian cyst cannot be excluded, it would probably be wise to consider immediate surgery, keeping in mind the possibility of torsion.[2]

It is interesting to note that a blood cul-

ture taken at the onset of symptoms revealed a growth of pseudomonas. However the autopsy did not show the usual findings

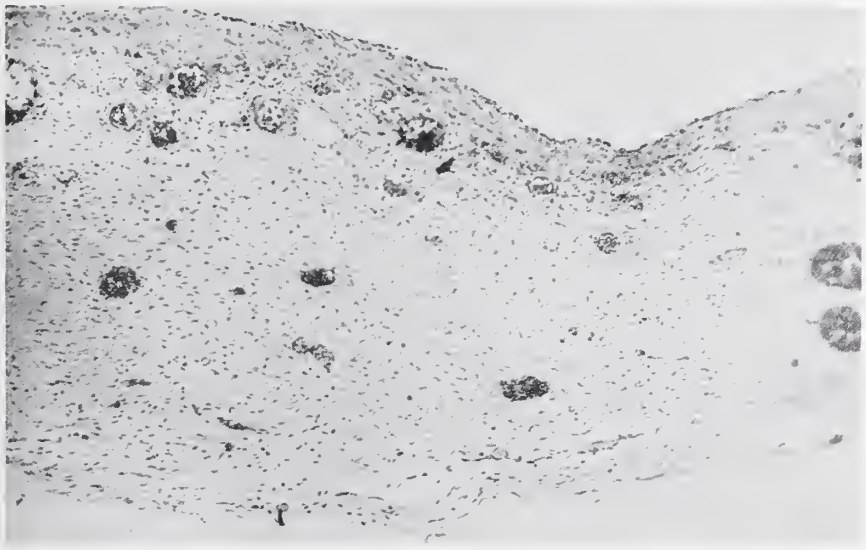


Fig. 1. The cyst wall composed of loose neuroepithelial tissue (H & Ex 55).

of neonatal sepsis, such as widespread petechiae, etc., and with the amount of blood found in the huge cyst, the pathol-

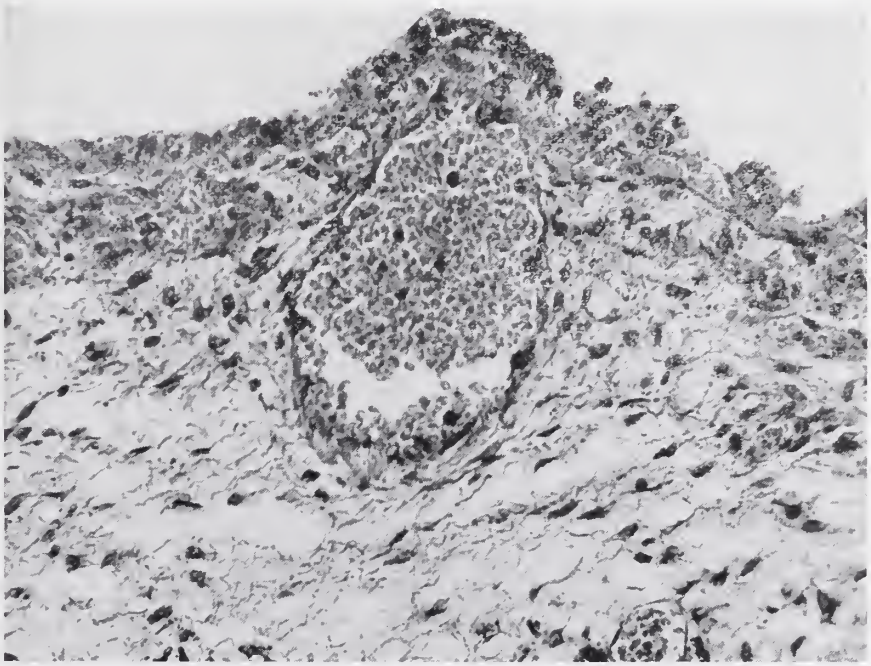


Fig. 2. The lining of the cyst wall composed of melanin bearing epithelium supported by well vascularized embryonal neuroepithelium (H & Ex 200).

ogist felt the latter was the primary cause of death.

Summary and Conclusions

1. A case of huge ovarian cyst with torsion in a newborn infant was reported.

2. Torsion is a rare complication of ovarian cyst in the first year of life and even more uncommon in newborns.

3. The only pathology in the case presented was a huge ovarian cyst which was

twisted 360 degrees on its long attachment and filled with bloody fluid.

4. In spite of the fact that pseudomonas was cultured from the blood, there was no evidence of septicemia or peritonitis at autopsy.

5. The cyst wall was composed of neuroepithelium resembling retinal tissue.

6. The cause of death in this case could be attributed to shock, secondary to hemorrhage into the cyst.

7. When one is faced with an intra-abdominal cyst in a female newborn where renal and adrenal involvement have been eliminated, exploratory surgery should be carried out without delay even if the child is asymptomatic.

ACKNOWLEDGMENT:

We wish to thank Dr. Fay Carr, Department of Radiology, Maryview Hospital and the Medical Illustration Department of the Veterans Administration Hospital, Kecoughtan, for their assistance in the preparation of this report.

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Implanted Contact Lenses.

Those modern-day vision aids—contact lenses—have been successfully used to restore sight to five patients permanently blinded by diseased or damaged corneas.

According to a report in the December issue of *GP* magazine, official scientific publication of the American Academy of General Practice, the five patients at the University of Florida, Gainesville, each had a tiny plastic contact lens glued to the corneal surface of one or both eyes. The cornea is the transparent membrane which forms the outer coat of the exposed part of the eyeball. It is subject to various kinds of diseases and injuries which can cause it to become temporarily or permanently opaque, blinding the victim.

According to the report, fitting an eye with the lens is a simple process which can be accomplished in 10 minutes. The treatment requires no hospitalization and there appear to be no hazards to the surgical procedure. The still-experimental technique includes removing the diseased or damaged outer covering of the cornea and bonding the plastic lens to the remaining cornea with a small amount of tissue-adhering plastic glue.

Ophthalmologists say the technique looks promising. However, they do not yet know how long the lens will stay in place or what late changes may occur in the eye. Even if the glue should wear away, they say, the epithelial tissue will grow over the edge of the lens like a collar and may hold the lens in place. If the lens should cause some difficulty, it can easily be lifted off.

Cancer Trends . . . .

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The Use and Abuse of the Pap Smear

The value of cervical cytology as a screening procedure for detecting cervical abnormality and cancer is now an accepted pathologic procedure. Numerous advances have been made in regard to this method since Papanicolaou and Traut's original work. It is now known that a cervix, which contains dysplasia or an early carcinoma, may appear clinically normal. These cellular preparations are of great value because they detect those lesions with the highest possible cure rates in patients who are usually gynecologically asymptomatic and clinically normal.

Two frequent questions asked are, at what age and how frequently should one obtain a Pap smear? A Pap smear should be obtained at the time of the first pelvic examination of the patient, whether she is pregnant or not. Ferguson et al., have reported on the occurrence of dysplasia and in situ carcinoma in teen-agers; we frequently see examples of this at the University of Virginia Hospital. There are differences of opinion regarding the interval of time between repeat Pap smears. It is known that a carcinoma in situ can develop within a period of one year, from a previously normal cervix. There is no evidence at this time that invasive carcinoma of the cervix develops from a normal cervix in a period of less than one year. Present information would tend to suggest that the usual developmental history involves an initial dysplasia which may regress, persist, or advance to in situ carcinoma. If this is not discovered during the earlier phases (dysplasia or carcinoma in situ), some unknown percent of in situ carcinoma will become invasive carcinoma. This process may take many years. A routine Pap smear should therefore be done once yearly unless some special situation suggests otherwise.

The preparation obtained should be taken from the region of the transitional zone or so-called squamo-columnar junction of the cervix. It is known that the vast majority of early lesions of the cervix develop in the region of the squamo-columnar junction, and thus the reason for obtaining the cellular preparation from this area. This may be readily appreciated grossly by the fact that the squamous epithelium frequently occupies the primary portion of the ecto-cervix and is more white in color and smoother than the columnar epithelium which is usually of a more velvety reddish and irregular appearance than the squamous epithelium. Not infrequently in older individuals, those menopausal and post-menopausal, the junction is not visible and may be within the endocervical canal. In such cases it is advantageous to obtain material from the endocervix, both by scraping and aspiration technique.

A cervical scraping smear taken with a wooden-type spatula from which the majority of cells may be placed on a slide without difficulty, gives the cytopathologist the best and most representative amount of material to study. The spatula should include cells from the entire circumference of the cervix. Aspiration smears of the cul de

From the University of Virginia Hospital.

sac frequently contain few or no abnormal cells. Similarly, a cotton-tipped applicator does not remove the large number of cells from the cervix that are obtained by the more abrasive wooden-type spatula.

The clinician should never be lulled into a false sense of security regarding the endometrium on the basis of cervical cytology. There is never an adequate sampling of the endometrial cells in any type of preparation primarily obtained for screening the cervix. Adequate cellular specimens from the endometrium may be obtained by special techniques. However, the diagnostic curettage remains the backbone of endometrial study.

Much discussion and comment has occurred because of the various classifications used by different laboratories regarding the reporting of cervical Pap smears. It is obviously necessary that the clinician understand what is meant by the report rendered by the cytopathologist. Reports of negative, suspicious, and positive smears are to be frowned upon unless additional comment is made regarding the specific lesion that one would expect to find on tissue study. A report of suspicious places the clinician in the position where he must do tissue studies. Poor cytologic interpretations and lack of clarity in reporting leads to many unnecessary surgical procedures and anxiety in the individuals concerned. It is now hoped that cytology classification will be broken down into more specific categories such as negative, mild dysplasia, moderate dysplasia, severe dysplasia or carcinoma in situ, and invasive or adenocarcinoma, so as to decrease these unnecessary surgical procedures.

Many lesions with mild and moderate dysplasias regress or stay the same without progression. Diagnostic tissue studies and therapy, if necessary, must be individualized in these circumstances.

Correlation between cytologic reports and histopathologic study should be in the range of at least ninety to ninety-five per cent of all cases. Adequate sampling by the clinician, and adequate study by cytopathologists, should make such results possible. There is always, as in any such procedure, an occasional false negative and an occasional false positive. The only realistic and productive approach to this reasonably widespread medical difficulty at this time is early detection with yearly Paps tests.

Comment

The Pap Smear has been widely accepted over the past several years. Recent figures from the American Cancer Society show that two-thirds of all women polled had the test once and 88 of 100 women had heard of the Pap Smear. This still leaves approximately 13 million who have heard of the test but have not had it and another seven million who have neither heard of it nor had it. The American Cancer Society's drive to "Conquer Uterine Cancer" is making a real effort to reach all women with the Pap Smear.

The death rate for uterine cancer in the United States shows a steady decline; it is less than half the rate of 20 years ago. The percentage of early in situ carcinoma of the cervix, virtually 100% curable, is increasing The principal test responsible for the early detection is the Pap Smear.

Dr. Fox's article clearly outlines the indications, technic, cytologic classifications and limitations of the Pap Smear. Its proper and widespread use are mandatory if we are to continue to improve our results in the treatment of carcinoma of the uterine cervix.

The Editors

Mental Health . . . .

C. A. WHARTON, JR.

Brief of Developments in Community Mental Health Services

Federal funds are currently available to supplement local funds in the development of new community mental health programs. Such funds are available under PL 88-164 for construction of Comprehensive Community Mental Health and Mental Retardation Facilities and under PL 89-105 for staffing grants for new or expanded services.

Of course federal funds in limited amounts have been available for many years and have been used to match state and local money for mental hygiene outpatient clinic programs of traditional character.

The Mental Health and Mental Retardation Construction Programs are administered by the Department of Health in a manner similar to the Hill-Burton Program. As required by law, state plans for construction of both community mental health center and mental retardation facilities have been written by that Department. Applications are processed jointly by the Department of Mental Hygiene and Hospitals and the Department of Health and by the Virginia Hospital Advisory Council. They are reviewed at regional and national levels by appropriate divisions of the Department of Health, Education and Welfare.

At present, one Comprehensive Community Mental Health Center is operating in Virginia at Riverside Hospital in Newport News. The total construction cost of the mental health portion was 2.3 million dollars. There are 32 inpatients beds. The Peninsula Mental Hygiene Clinic occupies the first floor and provides outpatient services. This center became operational in mid-September.

Another center, located in Tennessee and processed through that State, is available to the citizens of Washington County-Bristol City, Virginia. The inpatient unit of 17 beds is in the Bristol Memorial Hospital. Yet to be built, but approved, is a new clinic structure.

Three additional applications have been approved for Virginia and should soon be under construction. These include a free standing community mental health center in Norfolk, and new outpatient clinic structures in Virginia Beach and Fairfax County.

Under the mental retardation facilities program, completed projects include expansion of the George Mason Center in Arlington and the Joseph Willard Center in Fairfax. Under construction is a mental retardation addition to the Woodrow Wilson Rehabilitation Center at Fishersville. Approved and awaiting construction are applications for a new facility to be operated by the Presbyterian Synod at Zuni, an addition to the Sarah Bonwell Hudgins facility in Hampton and a unit at the University of Virginia Children's Rehabilitation Center.

Staffing grants are applied for directly from the local level to the federal government. The Department of Mental Hygiene and Hospitals receives copies and is requested to comment to the Region III office of the Department of Health, Education and Welfare. To date only one such application has been made. This was by Riverside Hospital. Notification of final action has not been received.

With the new provisions of Chapter 10, Title 37.1, Code of Virginia, which allow

WHARTON, C. A., JR., *Mental Health Programs Director, Department of Mental Hygiene and Hospitals.*

Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

the State (when funds are appropriated) to participate in a broader range of local services than has previously been possible, it is expected that many communities will move toward development of more comprehensive services.

The Department has completed regulations for the administration of this program and is currently engaged in an effort to acquaint governing bodies and citizens with the program. In order to come under the terms of Chapter 10 it is necessary for jurisdictions involved to appoint an official Community Mental Health Services Board to develop and administer plans for mental health and mental retardation services. The Virginia Department of Mental Hygiene and Hospitals is under some pressure since, for the Department to be able to present a meaningful budget for the program to the General Assembly, it will be necessary to have the boards formed at an early date and local plans in to the Department this spring.

We have received word that Arlington County intends to establish a Board. The City of Lynchburg and the Counties of Amherst, Campbell, Appomattox and Bedford had previously jointly authorized a Mental Health Planning Commission. The Department is in consultation with this Commission with a view toward realignment under Chapter 10. As a result of recent correspondence with all governing bodies in the Commonwealth, many inquiries have been received for further information on the program. It is impossible to predict at this time how many Boards will be formed or how many jurisdictions will desire to take advantage of the provisions of Chapter 10.

Age Profiles of Western Countries

The increases in population, which have recently occurred in almost every country of the world, are expected to continue in the immediate future. At the same time the age structures of these populations will undergo moderate changes, mainly because of past fluctuations in birth rates.

The proportion of the total population accounted for by the younger generation—those under age 25—has been increasing in every country under review. By 1966 this age group constituted half the population in Canada and over 45 percent of the population in the United States and the Netherlands. Each of these countries recorded relatively high birth rates following World War II through the early 1960's. By contrast, Sweden and the United Kingdom, where less than 40 percent of the population is under 25 years of age, did not experience increased birth rates during this period.

In most countries, the proportion of persons at ages 45 and over has also been increasing; only Switzerland and France registered small decreases during the past decade.

For the immediate future only small changes are anticipated in the relative proportions of these broad age groupings (under 25, 25-44, 45 and over) in western countries. In general, decreases are expected in the proportion at ages under 25, and increases at ages 25-44 and at ages 45 and over. The United Kingdom presents the most pronounced exception because the proportion of the population there at ages under 25 is expected to increase while the proportion of the population at ages 45 and over is expected to decrease.

The median age of the female population is higher than that for males. The largest difference—about four years—is found in the United Kingdom and France. Canada has the smallest difference, the median age for females being only about one year above that for males.

—Metropolitan Life Statistical Bulletin, October 1968

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Summary of State Department of Health Activities Since January 1968

The past year has seen some noteworthy changes and accomplishments in public health in Virginia. The following summary briefly describes these developments. Most will be of interest to physicians, particularly Medicaid, as it will concern an important segment of the State's population.

Plans have been made to begin Virginia's Medicaid program July 1, 1969. The Medicaid program will initially benefit those now covered by several welfare programs, such as old age assistance, aid to the blind, permanently and totally disabled, families with dependent children and foster children. There are between 60,000 and 100,000 Virginians covered by these programs, representing more than 2.2 per cent of the State's total population.

Under authority granted by an Executive Order of Governor Godwin, the State Department of Mental Hygiene and Hospitals and the State Health Department are beginning a joint program for the care of geriatric patients. Beginning October 1, geriatric patients primarily from the Roanoke area are being transferred from Western State Hospital to Catawba into a section which has not been in use. As of December 1, forty-eight patients had been moved. Others will follow as beds are made available. About four years ago there were approximately 900 patients in the four tuberculosis sanatoria. Owing to great improvements in anti-tuberculosis drugs and treatment techniques and a state-wide system of regional chest clinics, drug distribution, and follow-up nursing care, today there are only 480 sanatorium patients. Over the same four-year period the average duration of hospitalization for tuberculosis has been reduced by seventy days.

With this decline in patient census, it has been possible to close out the Health Department's tuberculosis mission at Piedmont Sanatorium (1967) and the Ennion G. Williams Sanatorium Division (1968). This leaves us with two tuberculosis hospitals, Blue Ridge at Charlottesville, which is operating at capacity, and Catawba, which has been operating at less than capacity. The cooperative plan with the Department of Mental Hygiene will allow full utilization of Catawba, a modern hospital facility, and at the same time will provide tuberculosis care for the citizens of Southwest Virginia at a location easily accessible to the entire region. The great advancement in the treatment of tuberculosis makes it possible to treat more patients with fewer beds.

The services of the Bureau of Alcohol Studies and Rehabilitation will be expanded upon completion of renovations on the ninth and tenth floors of the Ennion G. Williams Hospital. There will be an increase from the twelve beds currently available to a fifty-bed facility. Tentative plans provide for ten beds to be utilized for study of the patient who requires detoxification. Twenty beds are to be utilized for continuance of the current intensive care program. Twenty beds will be utilized for those individuals requiring long term in-patient service, and for the initiation of a night care program. This service is for those patients who require supervision while making suitable adjustment following intensive care.

One of the bills passed by the 1968 General Assembly relating to highway safety authorized the Health Department to administer a licensing program for ambulances

and emergency medical attendants. This program has been started.

The State Board of Health has begun a study of the operation of clinical laboratories in Virginia to determine the desirability of legislation for the licensing of such laboratories. A report of this study will be made to the 1970 General Assembly.

During the year the Roanoke City and Arlington County Health Departments became affiliated with the State Health Department under the State-local cooperative plan. All cities and counties in the State are now members of the cooperative plan with the exception of Henrico County.

The latest totals available (September 30, 1968) indicate that there are 2,467 establishments (hotels, motels and tourist homes) under inspection by the State Health Department's Bureau of Tourist Establishment Sanitation. This represents a loss of 74 establishments in the past year. There are, however, 52,577 units (rooms) available to the traveling public; an increase of 1,244 in the past year. This indicates that, whereas there are fewer establishments, the number of rooms per establishment is increasing due to the construction of larger new facilities.

During the last year the number of campsites has increased from 126, with 7,117 spaces, to a total of 177 campsites, with 10,400 spaces. This sizable increase is indicative of the rapid growth of outdoor recreation facilities in Virginia; a trend which is expected to continue.

Monthly Report of Bureau of Communicable Disease Control

	Dec. 1968	Dec. 1967	Jan.-Dec. 1968	Jan.-Dec. 1967
Brucellosis	4	0	59	38
Diphtheria	0	5	0	10
Hepatitis	38	61	575	744
Meningitis (Aseptic)	1	5	105	64
Meningococcal Infections	6	5	46	48
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	1	0	43	30
Rubella	11	23	637	675
Rubeola	43	93	450	2345
Streptococcal Sore Throat (including Scarlet Fever)	1335	1561	14052	14404
Tularemia	0	2	3	2
Typhoid Fever	0	1	9	9
Rabies (in animals)	16	15	158	210
Venereal Disease				
Syphilis	116	120	1621	1981
Gonorrhea	934	792	10672	9680
Other	2	0	17	14

Diagnostic Laboratory Medicine . . . .

A. T. NASR, M.D.

Creatine Phosphokinase in Clinical Medicine

ATP-creatine phosphotransferase or creatine phosphokinase (CPK), also known as creatine kinase, is involved in the rapid transfer in muscle of high energy phosphates from creatine phosphate to ADP, forming ATP which in turn supplies the muscle actomyosin with the energy required for contraction. The enzyme then, during the muscle rest, helps replenish the creatine phosphate pool by phosphorylation of creatine, a magnesium requiring reaction. It is present mainly in skeletal muscle and to a lesser extent in heart muscle and brain. The concentration is very low in smooth muscle and is negligible or absent in liver, lungs, kidneys, red blood cells, fat tissue, pancreas, and lymphoid tissue. Thus, this enzyme has a major advantage of tissue specificity.

There are several methods for determination of the enzyme in serum, and the "normal" values vary from one laboratory to the next. Some laboratories use the Boehringer Kit which utilizes the method of Gilvarg and Tanzer, while others use CalBiochem's CPK "calsul". With the latter method, normal values for serum are up to 35 mU/ml.

Serum CPK is elevated following prolonged and strenuous exercise. Normal values are found in people performing a normal daily work load plus even a moderate degree of exercise. Values are lower for bedridden than for ambulatory individuals. The serum CPK level is not significantly affected by recent eating, pregnancy, stage of the menstrual cycle, or by the age of the adult patient, although it is higher in infants and children under six years of age.

Levels of serum CPK are altered in disease and hence are of value in diagnosis. This procedure has been applied to a number of clinical conditions, as follows:

I. *Myocardial Infarction*—Serum CPK is elevated in all cases of myocardial infarction. The elevation begins at about six hours following the onset of chest pain, reaches a peak by 18-24 hours, and returns to normal by 48-72 hours. Before six hours or after 48 hours, or if the serum is left standing at room temperature for a long period of time, no or little activity will be detected. Even if the serum is frozen, the activity will decrease significantly in 24 hours in cases of myocardial infarction, unless the sensitive -SH groups of the enzyme are protected by compounds such as cysteine or reduced glutathione added to the serum or substrate.

(Blood samples should always be collected before considering narcotics, the administration of which will produce a false increase of the CPK level. It has been reported that the use of cysteine as a reactivating agent sometimes causes an unexplained rise of the CPK level in cases of pulmonary disease.)

Even though in our laboratory cysteine is included in the substrate, it is still advisable to send the serum as soon as possible to the laboratory.

The advantage of this enzyme over the ones currently used, namely SGOT and LDH, is that the CPK elevation is relatively more pronounced and is much more specific. It does not increase in cases of pulmonary infarction or embolism, in hepatic congestion, or when hemolyzed serum is used. It is elevated in cases of myocardial infarction with equivocal or atypical EKG findings but not in cases of angina pectoris, and occasionally positive in coronary insufficiency. As the diagnosis of myocardial infarction can be made in the majority of patients by

the clinical picture and the EKG alone, the value of CPK in the equivocal cases is quite obvious. Disadvantages of the CPK determination as an aid in diagnosis and in evaluation of myocardial infarction are the rapid fall to normal and the increased activity in some cases of myocarditis, in tachycardia and in dissecting aneurysms. In these conditions, the clinical picture and the EKG are important to make the diagnosis. In infarction, important information may be gained by comparison with other enzymes. For example, if the SGOT continued to rise by the fourth day post-infarction and the CPK was normal, liver congestion rather than an extension of the infarct would most probably be suggested. Or, if at the same time, there were no changes in levels of LDH or LDH isozyme I and the CPK suddenly rose, the possibility of another or extension of the same infarct should be entertained very seriously. This is particularly true when the clinical picture is quite vague or obscure, which is not uncommon in cases with post-infarction complications.

II. *Muscular Dystrophy*—Serum CPK is most markedly and constantly elevated in cases of progressive muscular dystrophy. Levels reaching several hundred times the normal value are found in *every* case of the Duchenne type muscular dystrophy; much lower levels are found in cases of the fascioscapulohumeral type. CPK elevation is less constant in the limb-girdle type. It is elevated in the great majority of female carriers of the Duchenne type, whether symptomatic or asymptomatic, and in siblings of affected males prior to the development of the clinical picture. Serum CPK levels are normal in all cases of neurogenic muscle atrophy (except for a single recently reported atypical case), in relatives of patients with limb-girdle and fascioscapulohumeral types of muscular dystrophy, in patients with myasthenia gravis, hypotonia (as in mongolism and benign congenital hypotonia), myotonia congenita, and in endocrine or electrolyte myopathies. The enzyme activity is slightly elevated in most cases of myotonia dystrophica. Serum CPK activity is increased in some patients with dermatomyositis and polymyositis; this increase is found mainly in children and infrequently in adults, and shows no correlation with either the chronicity or activity of the disease. The serum CPK is also elevated in patients with tetanus, grand mal epilepsy following seizures or in status epilepticus, and hereditary coproporphyria III.

Thus, elevated CPK values practically exclude primary neurogenic muscle disease. Normal CPK excludes the diagnosis of Duchenne type muscular dystrophy. The great usefulness of this determination in identifying female carriers of the Duchenne type muscular dystrophy is evident, thus making genetic counseling much more feasible and based on a firmer ground. Prognosis can be made on the basis of the level of this enzyme in siblings of patients with the Duchenne type muscular dystrophy prior to the appearance of symptoms, those with normal levels being considered unaffected. Elevated serum CPK is of some value in diagnosing minor cases of tetanus or in patients presenting an atypical clinical picture. In differentiating muscular dystrophy from polymyositis in adults when the diagnosis is in doubt, even if there is an elevation of the enzyme, it is variable and not maintained in the latter condition as in the former.

III. *Central Nervous System*—In most cases of cerebral infarction the serum CPK levels rise, however, the peak elevation occurs between two and six days after the infarction (average three days) and the levels return to normal by the 14th day. CPK in the cerebrospinal fluid (CSF) is irregularly elevated in many CNS affections, but is normal in idiopathic epilepsy (except following seizures), nonprogressive hydrocephalus, meningitis and meningoencephalitis, myelitis, cerebral atrophy, and Parkinson's disease. Patients with meningiomas and craniopharyngiomas also have normal CPC

levels in the CSF. There is no correlation between CPK levels in the serum and the CSF. Therefore, the CPK determination of blood and CFS from patients with central nervous system disease is of little help to establish a differential diagnosis. Cerebrospinal fluid CPK determination is sometimes helpful in cases of hydrocephalus in older patients, as it is usually elevated when the hydrocephalus is progressive.

The elevated levels of CPK in the serum in cases with CNS disease and cerebral infarction is unlikely to interfere with the diagnostic value of the enzyme in other conditions such as myocardial infarction, mainly because of the totally different clinical pictures. In concomitant heart and brain disease, the diagnostic value of serum CPK decreases despite the time differences of the enzyme elevation.

IV. *Hypothyroidism*—Serum CPK is elevated in 60-80% of cases of hypothyroidism. The degree of elevation correlates well with the severity of the disease as normal levels usually are found in patients with a mild disease. The serum CPK is normal in cases of thyrotoxicosis including those with severe thyrotoxic myopathy and histopathological lesions. The elevated CPK in myxedematous patients gradually falls upon treatment with thyroid hormone and the drop correlates well with the efficacy of therapy. A rise of serum CPK in thyrotoxic patients undergoing therapy probably indicates that they are becoming hypothyroid.

V. *Other Conditions*—Serum CPK is elevated in about 35% of cases of chronic alcoholism. It is also elevated after surgery, following trauma to muscles, and with muscle necrosis such as follows occlusion of a major artery. The rise is proportional to the muscle mass involved. Occasionally, it may be slightly elevated in thrombophlebitis. It is not elevated in cases of acute or chronic renal disease, renal infarction, hepatobiliary disease, hemolytic disease (except sickle cell disease), malignant neoplasia, pulmonary embolism or infarction and leukemia.

CPK isozymes from extracts of skeletal muscles, heart muscle, and brain and from sera of normal individuals and of patients with myocardial infarction and muscular dystrophy have been compared. The results have been quite variable and even contradictory, the only conclusion agreed upon by the workers being that the isozymes are of no value as an aid in clinical diagnosis.

The mechanism by which CPK is liberated into the serum is not clear, although the following few facts give us a glimpse into the problem.

1. Treatment of muscular dystrophy patients with thyroid hormone does not depress the CPK activity in the serum, hence there is probably more than one mechanism responsible for the liberation of CPK from muscle.
2. The mechanism or mechanisms are probably specific (and not just due to simple muscle breakdown or leakage of enzyme due to increased muscle permeability) as only CPK is elevated in myxedematous patients as compared with the other enzymes such as SGOT and LDH. Furthermore, CPK is not elevated in cases of severe thyrotoxic myopathy nor in patients with neurogenic muscle atrophy.
3. Muscle necrosis by itself is not sufficient to explain the increase in serum enzyme activity and necrosis is not a prerequisite for the liberation of enzymes into the serum. Actually, it is injured cells surrounding necrotic tissue that are believed to be the cause of enzyme elevations in cases of infarction.

Division of Clinical Pathology
Medical College of Virginia
Health Sciences Division of
Virginia Commonwealth University
Richmond, Virginia

Woman's Auxiliary....

The Accent Is on Youth

. . . and the White House Conference was a must on our busy president's schedule. Mrs. Robert D. Keeling, as well as other auxiliary members throughout Virginia, attended the Regional II Conference in Richmond.

Mrs. C. C. Long, national auxiliary president, has urged all auxiliaries to form action groups and carry out the drive against screened violence in particular. Television and movie violence have been credited with being influential factors contributing to the "violence of our time", said Mrs. Long. "It kills and maims as surely as does disease" and can blight the lives and future of every young person unless we act to stop it." This drive is aimed at the "decision makers" who must listen to public opinion. Mrs. Long recommended a seven point program which included writing letters to the heads of motion pictures and television producers. The auxiliaries are encouraged to "emphasize the concern for sound health education; avoid abusive language and boycotts." Mrs. Pinson Neal Jr., chairman on children and youth, writes "There should be absolutely *no* reason why all auxiliaries should not participate in this campaign as requested by our national auxiliary president. It would take but four 5¢ post cards from each member of auxiliaries, large or small, to take action. Letters carry weight also. Do write to:

Julian Goodman, President
National Broadcasting Company
30 Rockefeller Plaza
New York City

Leonard Goldenson, President
American Broadcasting Company
1330 Avenue of the Americas
New York City

Frank Stanton, President
Columbia Broadcasting System
51 West 52nd Street
New York City

Jack Valenti
Motion Picture Association of America
522 Fifth Avenue
New York City

"Parent to Child About Sex" is a 31½ minute, 16 mm, color sound film, which has been highly recommended for such audiences as parents, high school and college students, church groups, YM and YWCA groups, service clubs, teacher education classes and nurses and physician's training classes. This may be obtained by writing to Wayne State University School of Medicine, Audio-Visual Utilization Center, Detroit, Michigan 48202.

A.M.A.-E.R.F.

. . . is close to our hearts as auxiliary members and the need is as pressing as ever. Reports from several auxiliaries show concern and the *Let's Do Something About It* spirit These contributions have meant that Deans of Medical Schools are able to continue the high quality education with unrestricted funds. Funds may also be used by students, interns or residents being trained in accredited medical schools or hospitals, and the "Institute for Biomedical Research" is solely supported by AMA-ERF funds.

The Woman's Auxiliary to the Norfolk County Medical Society has made arrangements with a number of local shops including a wig shop and a ham shop where a percentage of the sale price on these items when sold to an auxiliary member is given to AMA-ERF.

The Fairfax Auxiliary sponsored a successful fund-raising event for AMA-ERF with their first Benefit Horse Show. After

months of preparation, under the leadership of Mrs. Herbert Lane, the show took place October 12, 1968. Entrants in six divisions and twenty-one classes competed for ribbons and silver trophies. A cookshack served chicken dinners, hamburgers, hot dogs, and beverages plus baked goods donated by auxiliary members which netted a fair profit. In the wake of their success a second annual Benefit Horse Show is being planned for next year.

The Arlington Auxiliary included an AMA-ERF booth in their annual "Arts and Crafts" Bazaar featuring Christmas from the Kitchen (AMA-ERF cookbook), AMA-ERF stationery and many other items.

This includes only a few of the projects. Work hard, the awards will be presented to the diligent at the convention in Virginia Beach.

Mrs. W. C. Fitzgerald, State AMA-ERF chairman, announced the sale of 97 books from the Mini-Luncheon at the convention in Roanoke, and would like to extend our appreciation to Mrs. Josephine Rich, the author, for her interesting views and review of the book at that time. By arrangement with her publisher she autographed books that day and 60% of the sale price went to our state AMA-ERF fund. The book is "Women Behind Men of Medicine."

We would like to express our appreciation also to Mrs. Wilson P. Smith, Eastern Regional AMA-ERF chairman and Mrs. Bruce Martin from West Virginia who exhibited their beautiful ceramics for sale with proceeds going to AMA-ERF.

Please urge your husbands and the medical societies to write their checks to the AMA-ERF auxiliary fund. Last year our AMA-ERF contribution met and surpassed its goal for the first time. With your help it can be bigger and better this year. Checks should be mailed to Mrs. W. C. Fitzgerald, 172 Westminster Court, Danville, Virginia 24541.

Editorial . . .

Famous Rides and Riders—Fact and Fiction

Boldly they rode and well
ALFRED, LORD TENNYSON

PART II

ROBERT BROWNING liked to write about rides. *How the Good News Was Brought from Ghent to Aix* has no historical background, although Ghent is historically significant, as is Aix. Aix is Aix-la-Chapelle, noted as the site of three epochal congresses, each antecedent to the signing of three important peace treaties: (1) 1668—ending Wars of Devolution (a word seldom, if ever seen except when reference is made to that peace treaty); (2) 1748—ending War of Austrian Succession and (3) 1818—settlement of aftermath of Napoleonic Wars by four Allied Powers, Great Britain, Austria, Prussia and Russia. Aix also figured prominently in World War II, for it was then Aachen, where American troops were concentrated during the Battle of the Bulge. Anyway, Browning was aboard ship when he wrote the poem and said he was so tired of the motion of the ship that he longed for the feel of a saddle beneath him and the rollicking gallop of a horse. The poem itself fairly gallops.

"I sprang to the stirrup, and Joris and he;
I galloped, Dirck galloped, we galloped all three."

Actually the name of Browning's horse was York, but in the poem he called him Roland.

Tennyson, in his *Charge of the Light Brigade*, immortalized the noble six hundred who, with Lord Cardigan, rode into the valley of death, even though they knew someone had given a wrong order. This occurred at the Battle of Balaclava, incident to the siege of Sebastapol, during the Crimean War, in 1854.

"Boldly they rode and well,
Into the jaws of Death,
Into the mouth of Hell
Rode the six hundred."

One of the most engaging rides of all, from the standpoint of both beautiful poetry and wonderful scenery, is that described by Sir Walter Scott in his *The Lady of the Lake*. The episode itself is, of course, fiction. Scott, however, before writing this part of his epic poem, went out and rode over the territory to be covered to determine how much time should be allowed for the chase.

It began in the early morning when the crafty and stout hearted stag in his lair in the forest of Glenartney was awakened by the baying of hounds. All day long the hunt continued as one by one the hounds and horses dropped out—exhausted. At eventide the stag found himself on the shores of Loch Katrine with only two dogs out of all the pack left, and out of the twenty horses and riders who started only one horse and one rider were left.

At this time the stag, panting, embossed with foam and dark with soil, labored in full view of the hounds and hunter. The hunter thought the stag, as he rushed headlong toward the huge rampart, Benvenue, would be brought to bay, but the stag knew a hidden nook and swerved aside, losing himself from the sight of the horseman and dogs. The baffled dogs raised a hue and cry. The hunter, not believing the quarry indeed lost, urged his jaded horse on to one last desperate burst of speed:

"Close on the hounds the hunter came
To cheer them on the vanished game.
But stumbling in the rugged dell
The gallant horse exhausted fell.
The impatient rider strove in vain
To rouse him with the spur and rein.
For the good steed, his labor o'er
Stretched his stiff limbs, to rise no more.
Then touched with pity and remorse,
He sorrowed o'er his expiring horse.
I little thought when first thy rein
I slackened upon the banks of Seine
That highland eagle e'er should feed
On thy swift limbs, my matchless steed.
Woe worth the chase! Woe worth the day!
That cost thy life, my gallant gray."

The chase itself was a product of Scott's imagination, but the lone rider was James the V of Scotland travelling incognito among his subjects, as James Fitzjames, the knight of Snowdoun. (James V, '1512-1542' was the only legitimate son of James IV, and Queen Margaret. In 1524, at the age of 12, he became King of Scotland, subject to the advice of his mother and a council. This "erection" of James V as king is said to have been mainly influenced by the efforts of Henry VIII, King of England, James VI of Scotland, '1566-1625' who became King James I of England, upon the death of Queen Elizabeth I in 1603, was born 24 years after the death of James V. James VI was the only son of Mary Stuart, Queen of Scots and her second husband, Henry Stewart, Lord Darnley.)

So, through the years, rides, famous and otherwise, have been the themes of song, story and factual history. The horse and rider, Pegasus and Bellerophon, are figments of Grecian mythology, but they (particularly Pegasus) have been highlighted by numerous writers including Shakespeare (King Henry V, Act III, scene 7, and in several instances

elsewhere), Longfellow (Pegasus in Pound), and Eleanor Wylie (Pegasus Lost). In fact Pegasus has come to be regarded as the poets' steed, who bears them aloft into the realm of fancy. Moreover, one of the northern constellations has been named for Pegasus. Bucephalus (sometimes spelled Bucephalas), "Bull Head," the celebrated war horse of Alexander the Great, and in whose honor Alexander founded the city of Bucephala in India when, at the age of 30 years, the horse died, had no less a publicity agent than Plutarch. Also Montaigne, in an essay on steeds, included Bucephalas among numerous other famous horses, and Andrew Runni Anderson has written extensively of both Alexander and Bucephalus. Don Quixote and his faithful horse, Rozinante, have, of course, been immortalized by Cervantes.

Among the most distinguished riders and horses in the history of our Nation were General Robert E. Lee and Traveller who bore the General from beginning to end of our Civil War, and whose skeleton to this day may be seen in the basement of the Chapel of Washington and Lee University wherein repose the remains of his beloved rider. Of Lee and Traveller, Steven Vincent Benet has written:

"Comes Traveller and his master
. . . . . Such horses are
The jewels of the horseman's hands and thighs.
They go by the word and hardly need the rein
They bred such horses in Virginia then,
Horses that were remembered after death
And buried not so far from Christian ground.

In the United States, however, the most noted rider was not of a Civil War, but of a Revolutionary War vintage. Paul Revere is known to practically every American because Longfellow wrote a poem about him.

Thus, it may be reflected, Bellerophon and Pegasus had their mythologists and Shakespeare, Alexander and Bucephalus their Plutarch and Anderson, Godiva and the Light Brigade their Tennyson, Don Quixote and Rozinante their Cervantes, Phidippides, Napoleon's Ratisbon Courier and the Ghent to Aix messengers their Browning, Revere his Longfellow and Lee and Traveller, their Steven Vincent Benet. However, no poet—famous or otherwise—has conferred immortality upon the spectacular 45-mile ride of a Revolutionary War Virginian. This ride rendered to our country a service as great, if not greater, than any comparable feat. The rider was a young native of Albemarle County. His name was Jack Jouett, Jr. He was born in Charlottesville, Virginia, on 7/December/1754.

(More about Jack Jouett to follow in later issues)

H. Lamont Pugh, M.D.

Just Some Broken Ribs

MISHAPS CONCERNING RIBS go back to the beginning of recorded time—in fact one of Adam's ribs figured prominently in the advent of Eve. (Genesis 2:21) The absence of any mention of postoperative discomfort on the part of Adam, after his general anesthetic had worn off, perhaps misled the writer into taking rib injuries too casually. This earlier impression was strengthened by a fractured rib Johnny Unitas received in a Colt game several years ago. The Baltimore orthopedist, who took care of Unitas, rigged up a cage to protect his damaged chest and he played the following Sunday.

Recently a brother-in-law of the writer figured in an auto accident. An x-ray showed eight ribs were fractured. His chest was immobilized, more or less, by a wide ace bandage, he was given some demerol, hospitalized for a week and reassured that he had nothing worse than some broken ribs. The writer then went home and slept soundly all night. There is no mention in the nurses' notes as to whether the patient slept equally well but in retrospect there is an increasing awareness on the writer's part that his brother-in-law was extremely decent throughout the entire affair.

This realization was brought into sharp focus on the evening of the tenth of December. While attending the annual dinner of the Richmond Academy of Medicine, where, if anywhere, a physician should obtain sanctuary from bodily harm, the writer succeeded in fracturing two ribs. At first it was bearable but as time went on it became increasingly evident that virtually all the muscles on the right side including those that activate the right arm and leg either arose from or were inserted in the ninth and tenth ribs. Paroxysms of coughing occurred on the even minutes and the diaphragm, not to be left out, contributed a hiccough every five minutes.

The pièce de résistance, which occurred twice daily, was an unsolicited sneeze which always prompted immediate inspection of the chest wall to determine whether one, or more likely, both of the fractured ribs had become compounded. A second chest film was made in an effort to bring the other occult fractures to light but this too was disappointingly unsuccessful. When the final prizes are given, the involved sensory nerves should receive the Most Valuable Award from the standpoint of constancy, steadfastness and willingness to give their all, regardless as to the hour of day or night in which they felt called upon to act. Never did their message fail to get through. They contributed far beyond the normal call of duty.

Word has reached the writer that his brother-in-law is coming to offer his sympathy. He doesn't need to do that, in fact it would be better for him to stay at home what with the cold weather and flu and all. Verily, in the words of Martin Luther, "It makes a difference whose ox is gored."

H. J. W.

News ....

Calendar of Events

Psychiatry in Medical Practice—The Stoneburner Lecture Series—Medical College of Virginia—February 20-21, 1969.

Annual Medical and Surgical Symposium of Watts Hospital—Durham, North Carolina—February 21-22, 1969.

Virginia Chapter, American Academy of Pediatrics and the Virginia Pediatric Society—Annual Meeting—Key Bridge Marriott Motor Hotel—Arlington—February 21-22, 1969.

Practical Radiology of the Skull, Spine and Central Nervous System—Sponsored by Department of Radiology, Medical College of Virginia—Williamsburg—March 4-8, 1969.

Electroencephalography—A Course in Current Problems—Sponsored by the American Electroencephalographic Society and Baylor University College of Medicine—Houston, Texas—March 13-15, 1969.

National Conference on Rural Health—Sponsored by American Medical Association—Philadelphia Marriott Hotel—Philadelphia, Pennsylvania—March 21-22, 1969.

Annual Post Graduate Day—Roanoke Memorial Hospital—Roanoke—March 27-28, 1969.

National Congress on Socio-Economics of Health Care—Sponsored by American Medical Association—The Palmer House—Chicago—March 28-29, 1969.

Annual Joint Cardiac Symposium—Sponsored by the Heart Association of Northern Virginia and Washington Heart Association—Marriott Twin Bridges Motor Hotel—Arlington—April 9, 1969.

Annual Clinical Meeting—American College of Obstetricians and Gynecologists—Americana Hotel—Bal Harbour, Florida—April 28-May 1, 1969.

Arthritis Seminar—Sponsored by Roanoke Chapter of the Arthritis Foundation of the University of Virginia—Hotel Roanoke—Roanoke—May 9-10, 1969.

Annual Convention—American Medical Association—New York—July 13-17, 1969.

New Members.

The following new members were received into The Medical Society of Virginia during the month of December:

Quincy Adams Ayscue, M.D., Norfolk
Anne J. Woodrum Board, M.D., Richmond
John Palmore Clarke, M.D., Virginia Beach
Donald Snead Daniel, Jr., M.D., Richmond
Peter Ellsworth Downs, M.D., Newport News
Ira Robert Lederman, M.D., Norfolk

William Abdo Rouady, M.D., Alexandria
Walter Robert Stern, M.D., Midlothian
Filiberto Vargas-Mera, M.D., Alexandria
Jean Kendrick Weston, M.D., Purcellville

Halifax County Medical Society.

Dr. James K. Hinton, South Boston, has been elected president of this Society, succeeding Dr. Allen Fuller, also of South Boston. Dr. John H. Frierson, Halifax, was named vice-president, and Dr. L. Floyd Hobbs, South Boston, secretary-treasurer.

Williamsburg-James City Medical Society.

Dr. Anderson T. Scott, Jr., has been elected president of this Society. Dr. John Mullaney is vice-president; Dr. Benjamin Daversa, secretary; and Dr. William Massey, III, treasurer. All officers are from Williamsburg.

Dr. Claude C. Coleman, Jr.,

Presented a paper on Cancers of the Temporal Bone in the Symposium on Head and Neck Cancer, sponsored by the Educational Foundation of the American Society of Plastic and Reconstructive Surgeons in Pittsburgh, Pennsylvania, December 2, 1968.

Hospital Staff.

Dr. W. P. Frazer, Hamilton, has been elected chief of staff for the Loudoun Memorial Hospital in Leesburg. Dr. Robert A. Orr, Leesburg, was elected vice chief and Dr. S. S. Morrison, also of Leesburg, secretary.

Position Wanted.

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Radiologist, eligible or board certified, for 60-bed general hospital. Apply to W. P. Fletcher, M.D., Chief of Staff, Alleghany Memorial Hospital, Covington, Virginia 24426. (*Adv.*)

Hospital Physician Wanted.

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Obituary . . . .

Dr. Wesley Leighton Williams,

Who practiced for many years in Norfolk, died in a Staunton Hospital December 17, following a long illness. He was seventy-five years of age and received his medical degree from the University of Virginia in 1918. Dr. Williams had been a member of The Medical Society of Virginia for forty-eight years.

A brother survives him.

Dr. Frank Buchanan Stafford,

Charlottesville, died December 6 at the age of seventy-eight. He was a graduate of the Medical College of Virginia in 1919. Dr. Stafford was former superintendent and medical director of Blue Ridge Sanatorium, having been connected with this institution since its opening in 1920. He was a past president of the Albemarle County Medical Society and the Virginia Trudeau Society and had been a member of The Medical Society of Virginia since 1925.

His wife and a son survive him.

Dr. John Granville Crawford,

Staunton, died December 31. He was fifty-four years of age and received his medical degree from the University of Virginia in 1939. Dr. Crawford had practiced in Staunton since 1947. During World War II he served as lieutenant commander in the U. S. Public Health Service. He had been a member of The Medical Society of Virginia for twenty-one years.

His wife, two daughters and a son survive him.

Dr. Augustine Warner Lewis, Jr.,

Aylett, died following a heart attack on December 22. He was fifty-four years of age and a graduate of the Medical College of Virginia in 1942. Dr. Lewis served in the army during World War II and began his practice at Aylett following his discharge. He was a past president of the Mid-Tidewater Medical Society and has been a member of The Medical Society of Virginia since 1951.

His wife, two daughters and a son survive him.

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References: 1. Merck & Co., Merck Chemical Division: Antacid Literature Survey, Rahway, New Jersey. (MM3041, R-1286-K REV 463.) 2. Danhof, I.E., report on file. 3. Hoon, J.R.: Arch. Surg. *93*:467 (Sept.) 1966.

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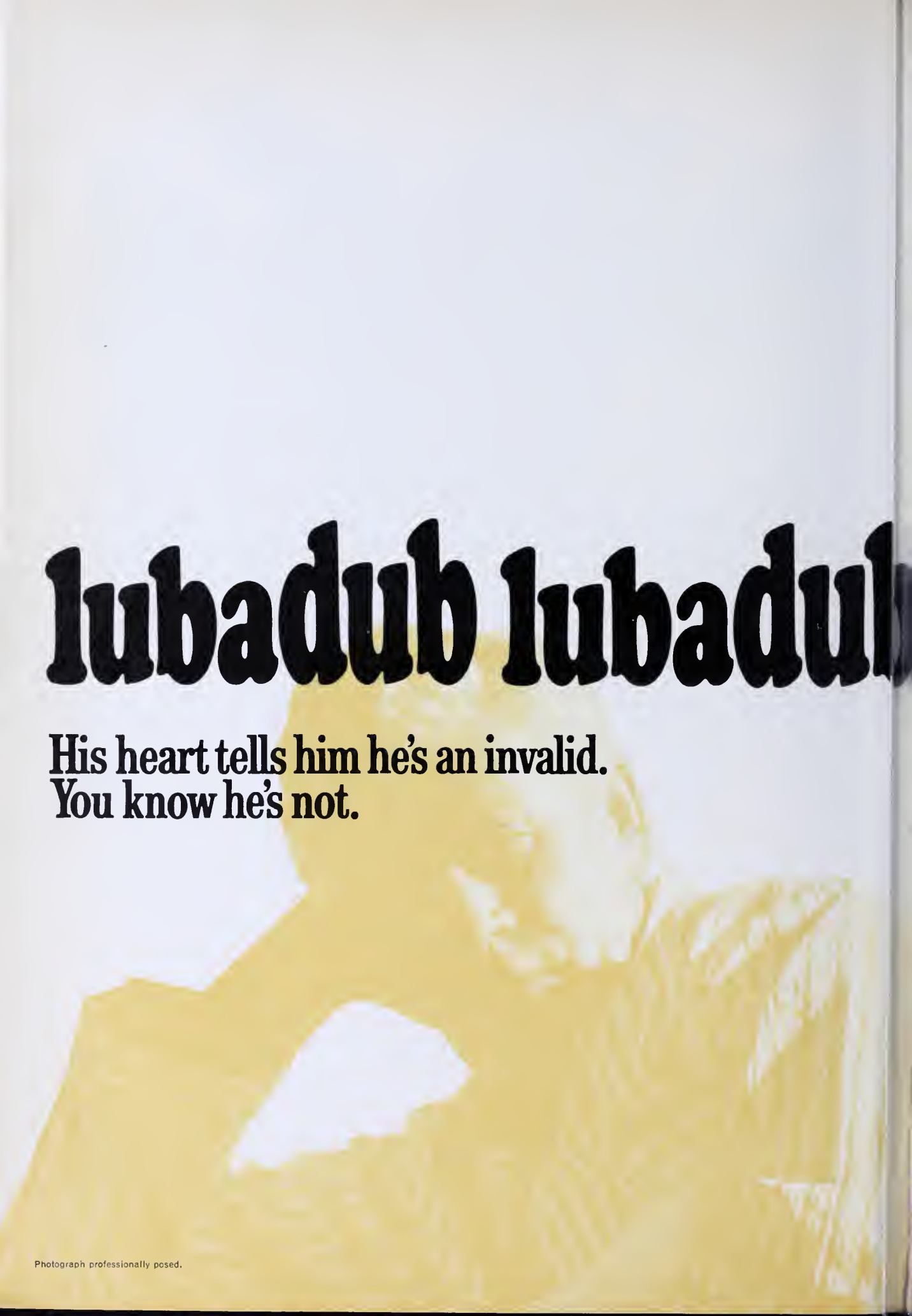
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The first 400 mg. Trocinate tablet usually relieves discomfort so promptly that Diarrhea ceases to be a bother

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The action of Trocinate is prompt, making the spacing of dosage easy. Often one or two 400 mg. tablets are sufficient to control diarrhea. The recommended dosage in spasm of the G. I. and G. U. tract is 400 mg. q. 4 h. A prescription of twelve (12) 400 mg. tablets will, in most cases, allow the patient to have a few to keep in reserve.

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In childhood



Warnings: Lomotil should be used with caution in patients taking barbiturates and with caution, if not contraindicated, in patients with cirrhosis, advanced liver disease or impaired liver function.

Precautions: Lomotil is a Federally exempt narcotic with theoretically possible addictive potential at high dosage; this is not ordinarily a clinical problem. Use Lomotil with considerable caution in patients receiving addicting drugs. Recommended dosages should not be exceeded, and medication should be kept out of reach of children. Should accidental overdosage occur, signs may include severe respiratory depression, flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia; continuous observation is necessary.

Adverse Reactions: Side effects reported with Lomotil therapy include nausea, sedation, dizziness, vomiting, pruritus, restlessness, abdominal discomfort, headache, angioneurotic edema, giant urticaria, lethargy, anorexia, numbness of the extremities, atropine effects, swelling of the gums, euphoria, depression and malaise. Respiratory depression and coma may occur with overdosage.

Dosage: The recommended initial daily dosages, given in divided doses until diarrhea is controlled, are as follows:

diarrheas...



- careful supervision
- electrolyte replacement
- specific anti-infective therapy

and...

LOMOTIL®

TABLETS/LIQUID

Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride ..... 2.5 mg.
(Warning: May be habit forming)
atropine sulfate .....0.025 mg.

LOMOTIL, in conjunction with specifically indicated medical management, may be lifesaving in children with severe diarrhea.

Lomotil lowers the excessive intestinal propulsion characteristic of diarrhea. This reduction of precipitate intestinal flow allows a normal or more nearly normal reabsorption of fluid and electrolytes and counteracts the dehydration so hazardous to children.

Moreover, eight years' experience has demonstrated that Lomotil controls diarrhea with a minimum of unwanted secondary actions.

Senra del Valle and his associates[1] conducted a study of 477 children with diarrhea, most of whom were hospitalized with the disorder. Lomotil, used in 407 of the children, shortened the duration of the diarrhea.

Grinszpan, Goldstein and Divito[2] used Lomotil in 20 children with diarrhea and also reported a prompt disappearance of diarrhea. Harris and Beveridge[3] in a double-blind study of 50 children with diarrhea, however, found no clear pattern to suggest that Lomotil influenced the course of the condition.

Michener, Brown and Turnbull[4] added evidence supporting the beneficial effects of Lomotil in 80 children, concluding that Lomotil was highly useful in controlling abdominal cramping, diarrhea and hypermotility.

Children: Total Daily Dosage

3-6 mo. . . . ½ tsp.* t.i.d. (3 mg.)
6-12 mo. . . ½ tsp. q.i.d. (4 mg.)
1-2 yr. . . . . ½ tsp. 5 times daily (5 mg.)
2-5 yr. . . . . 1 tsp. t.i.d. (6 mg.)
5-8 yr. . . . . 1 tsp. q.i.d. (8 mg.)
8-12 yr. . . . 1 tsp. 5 times daily (10 mg.)
Adults: . . . . 2 tsp. 5 times daily (20 mg.) or 2 tablets q.i.d.

*Based on 4 cc. per teaspoonful.

Maintenance dosage may be as low as one-fourth the initial daily dosage.

References:

1. Senra del Valle, A.; Linfante de Rufinelli, E. B.; Brumetti, E., and Rossi, R. H.: El chlorhidrato de difenoxilato en las diarreas infantiles, Sem. Med. (Buenos Aires) *127*:475-484 (Oct. 4) 1965. 2. Grinszpan, I. L.; Goldstein, A., and Divito, J.: El chlorhidrato de difenoxilato en las diarreas infantiles, Sem. Med. (Buenos Aires) *125*:758-763 (Aug. 27) 1964. 3. Harris, M. J., and Beveridge, J.: Diphenoxylate in the Treatment of Acute Gastro-Enteritis in Children, Med. J. Australia 2:921-922 (Nov. 27) 1965. 4. Michener, W. M.; Brown, C. H., and Turnbull, R. B., Jr.: Ulcerative Colitis in Children. II. Medical and Surgical Therapy, Amer. J. Dis. Child. *108*:236-242 (Sept.) 1964.

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One tablet of QUINAMM at bedtime usually controls distressing night cramps and permits restful sleep with the initial dose.

Prescribing information—Composition: Each white, beveled, compressed tablet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nocturnal and recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindications:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Side Effects/Precautions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

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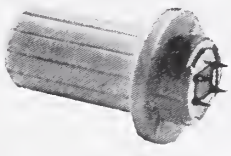
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For brief summary of prescribing information, see next page.

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Contraindications: History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases.
Warning: With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small-bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue coated potassium-containing formulations immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur. Discontinue one week before electroshock therapy, and if depression or peptic ulcer occurs.
Use in pregnancy: Because chlorthalidone may cross the placental barrier and appear in cord blood and thiazides may appear in breast milk, this drug should be used with care in pregnant patients and nursing mothers. When used in women of childbearing age, the potential benefits of the drug should be weighed against the possible hazards to the fetus. Use of chlorthalidone may result in fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.
Precautions: Antihypertensive therapy with this drug should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. To avoid hypotension during surgery, discontinue therapy with this agent two weeks prior to elective surgical procedures. In emergency surgery, use, if needed, anticholinergic or adrenergic drugs or other supportive measures as indicated. Because of the possibility of progression of renal damage, periodic kidney function tests are indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated. Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, the drug should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.
Take particular care in cirrhosis or severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Severe salt restriction is not recommended. Use cautiously in patients with ulcerative colitis or gallstones (biliary colic may be precipitated). Bronchial asthma may occur in susceptible patients.
Adverse Reactions: The drug is generally well tolerated. The most frequent side effects are nausea, gastric irritation, vomiting, diarrhea, constipation, muscle cramps, headache, dizziness and acute gout. Other potential side effects include angina pectoris, anxiety, depression, bradycardia and ectopic cardiac rhythms (especially when used with digitalis), drowsiness, dull sensorium, hyperglycemia and glycosuria, hyperuricemia, lassitude, restlessness, transient myopia, impotence or dysuria, orthostatic hypotension which may be potentiated when chlorthalidone is combined with alcohol, barbiturates or narcotics, leukopenia, aplastic anemia, skin rashes, thrombocytopenia, agranulocytosis, nasal stuffiness, increased gastric secretions, nightmare, purpura, urticaria, ecchymosis, weakness, uveitis, optic atrophy and glaucoma, and pruritus. Eruptions and/or flushing of the skin, a reversible paralysis agitans-like syndrome, blurred vision, conjunctival injection, increased susceptibility to colds, dyspnea, weight gain, decreased libido, dryness of the mouth, deafness, anorexia, and pancreatitis when epigastric pain or unexplained G I. symptoms develop after prolonged administration. Jaundice, xanthopsia, paresthesia, photosensitization and necrotizing angiitis are possible.
Average Dosage: One tablet daily with breakfast.
Availability: Pink, single-scored tablets in bottles of 100 and 1000. (B)46-600-C
For details, please see complete prescribing information.

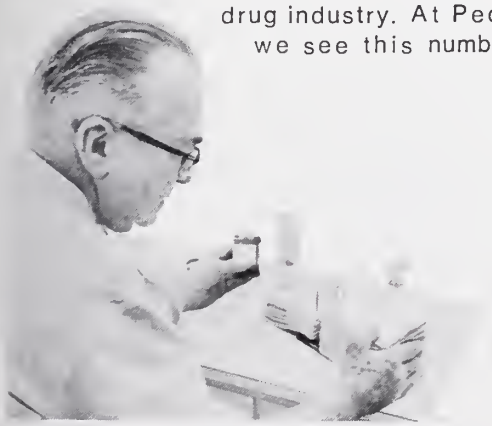
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Each bi-layer tablet contains: Pentylenetetrazol 100 mg., Niacin 50 mg., Thiamine Hydrochloride 1 mg., Ascorbic Acid 20 mg. Dose—one or two tablets three times daily, one-half hour before meals. Maximum dosage is two tablets per dose, six tablets per day.

Side effects—Excessive dosage may cause transient flushing, muscular twitching, hyperreflexia and convulsions, and respiratory paralysis. Use cautiously in elderly patients who are unstable or paranoid.

Contraindicated in patients with low convulsive threshold, epilepsy or severe hypertension.

LEPTINOL® is supplied in bottles of 100, 500 and 1,000 tablets.

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Contraindications: Hypersensitivity to tetracycline.

Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.

Precautions: Nonsusceptible organisms may overgrow; treat superinfection appropriately. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Side Effects: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

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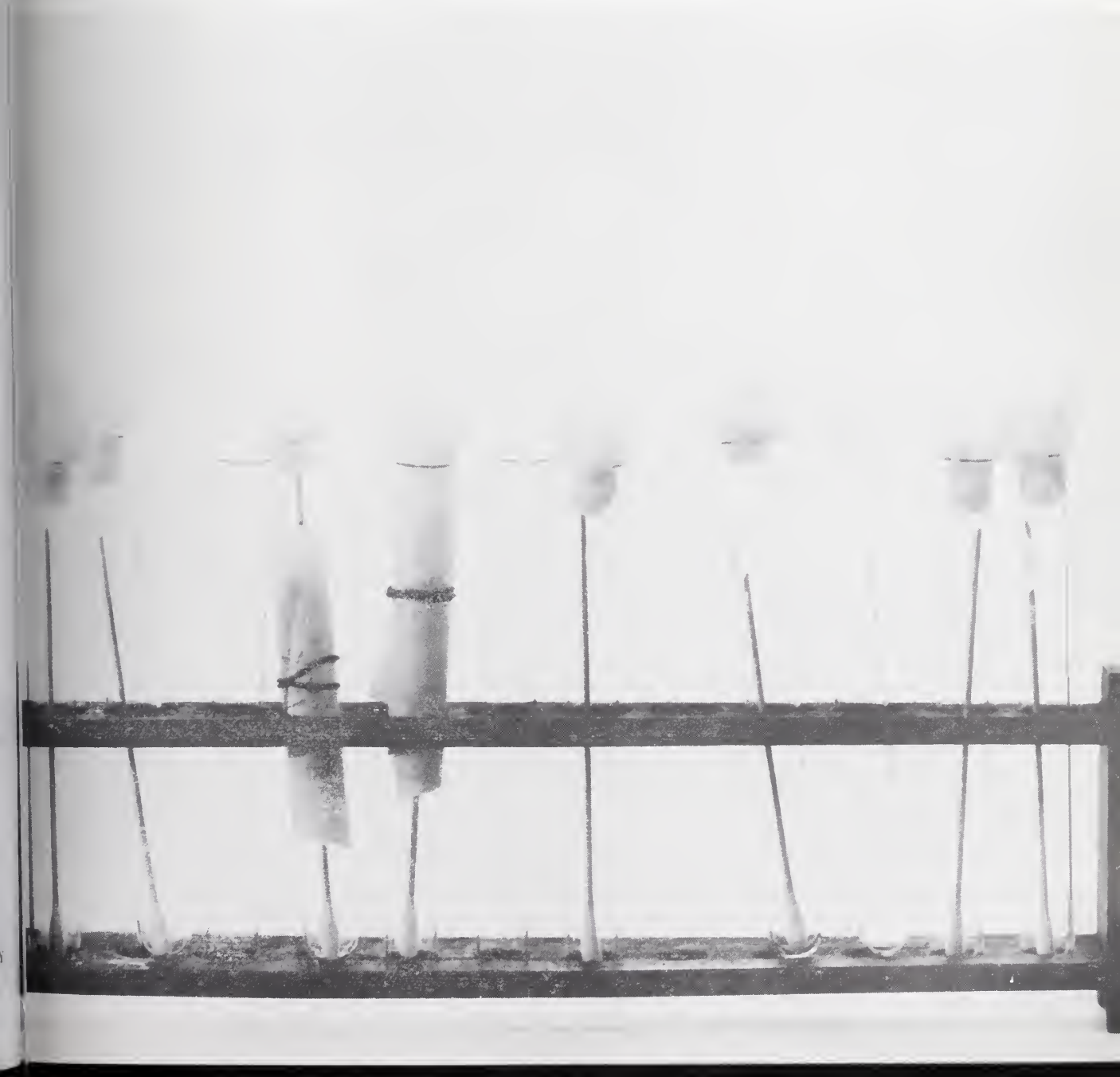
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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.
Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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MEDICAL MONTHLY

MARCH 1969

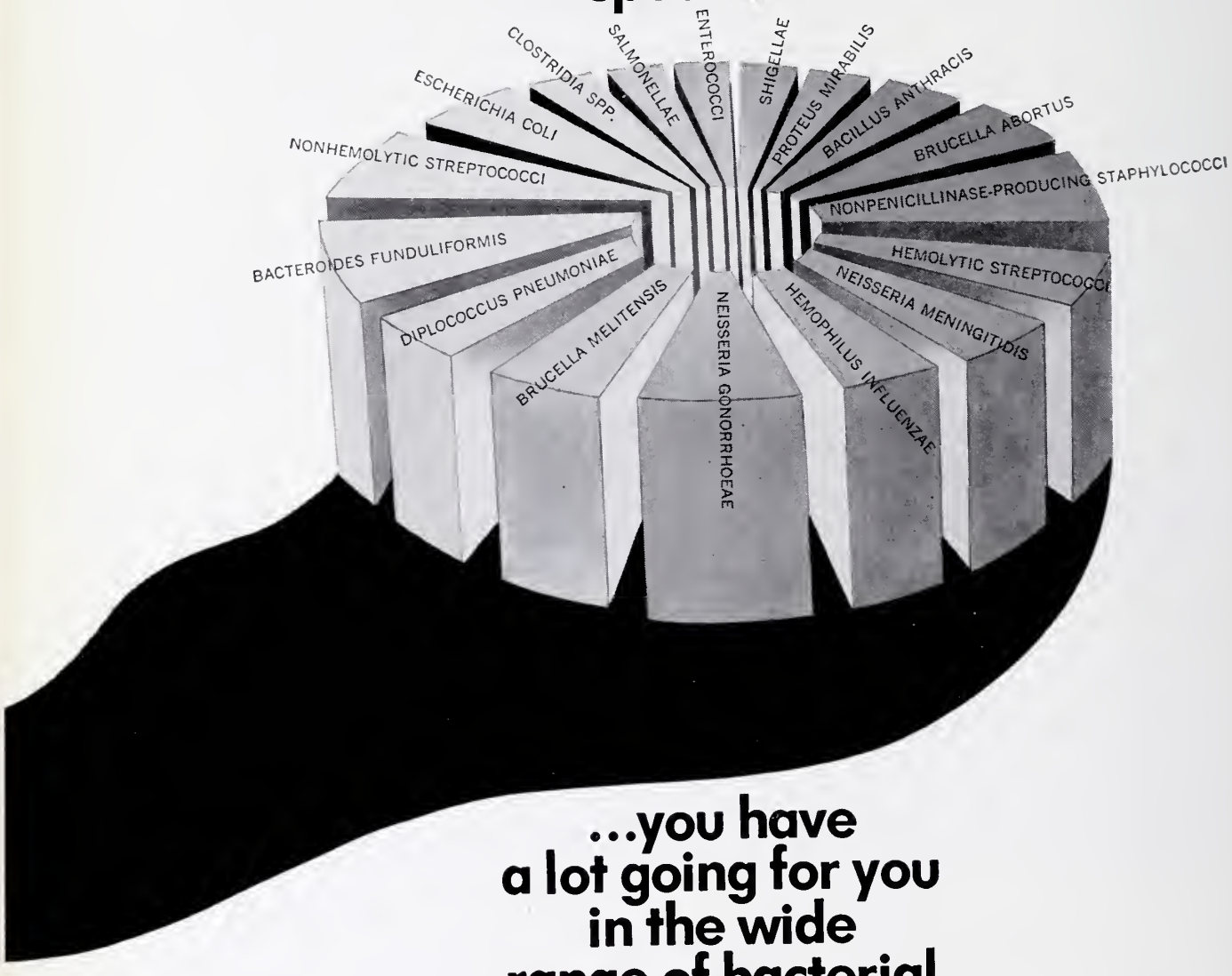
DISPLAY SHELVES

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THE MEDICAL SOCIETY OF VIRGINIA
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OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

With the broad Polycillin (ampicillin trihydrate) spectrum...



...you have a lot going for you in the wide range of bacterial infections.

PRESCRIBING INFORMATION. For complete information consult Official Package Circular. **Indications:** Infections due to susceptible strains of Gram-negative bacteria (including Shigellae, *S. typhosa* and other Salmonellae, *E. coli, H. influenzae, P. mirabilis, N. gonorrhoeae* and *N. meningitidis*) and Gram-positive bacteria (including streptococci, pneumococci and nonpenicillinase-producing staphylococci). **Contraindications:** A history of allergic reactions to penicillins or cephalosporins and infections due to penicillinase-producing organisms. **Precautions.** Typical penicillin-allergic reactions may occur, especially in hypersensitive patients. Mycotic or bacterial superinfections may occur. Experience in newborn and premature infants is limited and caution should be used in treatment, with frequent organ function evaluations. Safety for use in pregnancy is not established. In gonorrheal therapy, serologic tests for syphilis should be performed initially and monthly for 4 months. Assess renal, hepatic and hematopoietic function intermittently during long-term therapy. **Adverse Reactions:** Skin rash, pruritus, urticaria, nausea, vomiting, diarrhea and anaphylactic reactions. Mild transient elevations of SGOT or SGPT have been noted. Black tongue has been noted in some patients receiving the Chewable Tablets. **Usual Dosage:** Adults—250 or 500 mg. q. 6 h. (according to infection site and offending organisms). Children—50-100 mg./Kg./day in 3 to 4 divided doses (depending on infection site and offending organisms). Bacterial menin —150-200 mg./Kg./day in 6 to 8 divided d Children weighing more than 20 Kg. shoul given an adult dose when prescribing o In parenteral administration, children weig more than 40 Kg. should be given an adult Beta-hemolytic streptococcal infections sh be treated for at least 10 days. **Supplied:** Capsules—250 mg. in bottles of 2 100. 500 mg. in bottles of 16 and 100. For Suspension—125 mg./5 ml. in 60, 80 and ml. bottles. 250 mg./5 ml. in 80 and 15 bottles. Chewable Tablets—125 mg. in b of 40. Injectable—for I.M./I.V. use—via 125 mg., 250 mg., 500 mg., and 1 Gm. Ped Drops—100 mg./ml. in 20 ml. bottles.

11-1/2/69 **A.H.F.S. Category 8:**

Polycillin®
(ampicillin trihydrate)

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Division of Bristol-Myers Co.
Syracuse, New York 13201

BRIST.

The penicillin you use like a broad-spectrum antibiotic

THE FRANCIS A. COUNTWAY
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LACTINEX®

TABLETS & GRANULES

■ **to help restore and stabilize the intestinal flora**

■ **for fever blisters and canker sores of herpetic origin**

Lactinex contains both *Lactobacillus acidophilus* and *L. bulgaricus* in a standardized viable culture, with the naturally occurring metabolic products produced by these organisms.

Lactinex has been shown to be useful in the treatment of gastrointestinal disturbances, and for relieving the painful oral lesions of fever blisters and canker sores of herpetic origin.[1,2,3,4,5,6,7,8]

No untoward side effects have been reported to date.

Literature on indications and dosage available on request.

HYNSON, WESTCOTT & DUNNING, INC.

Baltimore, Maryland 21201

(LX-OS)



References:
(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

The AMBAR SCRAPBOOK of

Obesity Oddities

FACT & LEGEND



CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.)
(Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety... helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

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(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup containing 10 grains in each teaspoonful.

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Rx: MONEY

For relief from the worry and expense brought on by accident and sickness disability.

When doctors are disabled and prevented from practicing, expenses mount up fast. They face not only the bills associated with today's costly medical treatment, but the great expense of maintaining an office and full staff as well. That's why the cost of just one month's disability often runs into thousands of dollars!

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Both Plans underwritten by





Whenever the diet is faulty, the appetite poor, or the loss of food is excessive

through vomiting or diarrhea—

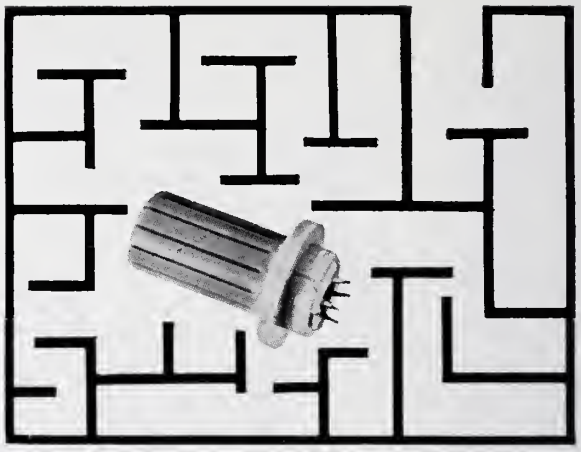
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MEAT EXTRACT

stimulates the appetite,
increases the flow of digestive juices,
provides: supplementary amounts of vitamins, minerals and soluble proteins,
extra-dietary vitamin B_{12},
protective quantities of potassium, in a palatable and readily assimilated form.

Supplied in bottles of 2 or 6 fluidounces.

DOSAGE *is 1 teaspoonful two or three times daily; two or three times this amount for potassium therapy. Dilute with two or more equal volumes of water.*

VALENTINE Company, Inc.
RICHMOND 21, VIRGINIA



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Histoplasmosis can mimic such unrelated diseases as TB, leukemia, pneumonia and syphilis. Use the blue Histoplasmin LEDERTINE™ Applicator as the first step in differential diagnosis and as a routine step in physical examinations for the permanent records of your patients.

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(Rosenthal)

Precautions—Nonspecific reactions are rare, but may occur. Vesiculation, ulceration or necrosis may occur at test site in highly sensitive persons. The test should be used with caution in patients known to be allergic to acacia, or to thimerosal (or other mercurial compounds).

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Eye Physician

Depend on the Services of a Guild Optician

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Exclusively Optical

A once-popular treatment for back pains was to have the seventh son of a seventh son stand or walk on the patient's back.





The pain of earache was allegedly relieved by holding a hot roasted onion to the ear.

For headache, a sovereign remedy was to wear a snakeskin round one's head.



A realistic approach to pain relief



'Empirin'®

Compound with Codeine Phosphate gr. 1/2 No. 3

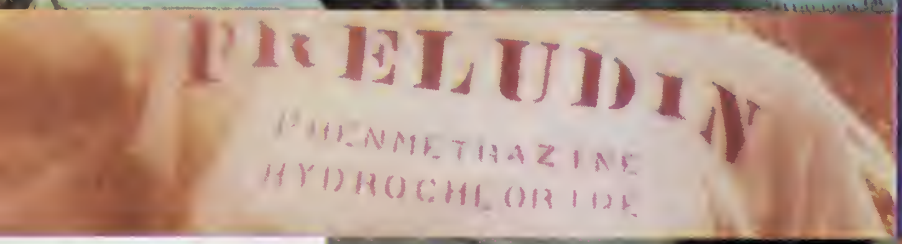
Each tablet contains:
Codeine Phosphate gr. 1/2 (Warning—May be habit forming), Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.

keeps the promise of pain relief

'B.W. & Co.' narcotic products are Class "B", and as such are available on oral prescription, where State law permits.

BURROUGHS WELLCOME & CO. (U.S.A.) INC.
Tuckahoe, N.Y.











Preludin®
phenmetrazine hydrochloride

Preludin is indicated only as an anorexigenic agent in the treatment of obesity. It may be used in simple obesity and in obesity complicated by diabetes, moderate hypertension (see Precautions), or pregnancy (see Warning). *Contraindications:* Severe coronary artery disease, hyperthyroidism, severe hypertension, nervous instability, and agitated prepsychotic states. Do not use with other CNS stimulants, including MAO inhibitors. *Warning:* Do not use during the first trimester of pregnancy unless potential benefits outweigh possible risks. There have been clinical reports of congenital malformation, but causal relationship has not been proved. Animal teratogenic studies have been inconclusive. *Precautions:* Use with caution in moderate hypertension and cardiac decompensation. Cases involving abuse of or dependence on phenmetrazine hydrochloride have been reported. In general, these cases were characterized by excessive consumption of the drug for its central stimulant effect, and have resulted in a psychotic illness manifested by restlessness, mood or behavior changes, hallucinations or delusions. Do not exceed recommended dosage. *Adverse Reactions:* Dryness or unpleasant taste in the mouth, urticaria, overstimulation, insomnia, urinary frequency or nocturia, dizziness, nausea, or headache. *Dosage:* One 25 mg. tablet b.i.d. or t.i.d. Or one 75 mg. Endurets tablet a day, taken by midmorning. *Availability:* Pink, square, scored tablets of 25 mg. for b.i.d. or t.i.d. administration, in bottles of 100 and 1000. Pink, round Endurets® prolonged-action tablets of 75 mg. for once-a-day administration, in bottles of 100 and 1000. (B) R3-46-560-B

Under license from Boehringer Ingelheim G.m.b.H.

For complete details, please see full prescribing information.

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York 10502

Preludin® phenmetrazine hydrochloride

Endurets® prolonged-action tablets



They run a good chance of losing weight.

Exercise and Preludin run together in helping patients to lose weight.

Preludin often puts a natural curb on appetite and frequently promotes a sense of well-being. By boosting a dieter's spirit, Preludin may help patients get the exercise you may prescribe.

One Endurets tablet taken between breakfast and midmorning usually provides daylong and early-evening suppression of appetite.

Mild ulcerative colitis may be triggered here...



In mild ulcerative colitis, a number of factors can precipitate an attack: for instance, dietary indiscretion, such as eating raw foods, or emotional overreaction, such as that aroused by financial difficulties. No matter what causes the patient's sensitive colon to "act up," he soon suffers from acute discomfort...and often, from anxiety and apprehension as well. Such patients frequently respond well to adjunctive dual-action Librax® therapy.

Librax combines, in a single convenient capsule, the well-known antianxiety effect of Librium® (chlordiazepoxide HCl) and the dependable anticholinergic/antispasmodic effect of Quarzan® (clidinium Br). Therefore, as Librax helps to relieve the patient's excessive anxiety and reduce his overreaction to stress, it also, at the same time, helps to control hypersecretion and hypermotility, thus relieving spasm and abdominal discomfort.

With Librax, the dosage schedule is simple: 1 or 2 capsules, t.i.d. or q.i.d., will in most cases bring the patient significant relief of both the emotional and physical elements that contribute to his psychovisceral disorder.

Before prescribing, please consult complete product information, a summary of which follows.

INDICATIONS: Indicated as adjunctive therapy to control emotional and somatic factors in gastrointestinal disorders.

CONTRAINDICATIONS: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

WARNINGS: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

PRECAUTIONS: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and toler-

or here.



ated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

ADVERSE REACTIONS: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver-function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diet.

two good reasons for prescribing LIBRAX®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

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ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Public Enema No.1





Claim the rewards of sparing your patients the tubes and tribulations of unpleasant enemas.

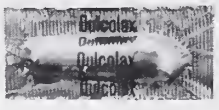
Compared to enemas, Dulcolax suppositories are a gentler and simpler way to empty the bowel. Gone are the tubing, the "accidents", and the bruised egos. Just one suppository, inserted against the bowel wall, usually brings about an evacuation within 15 minutes to an hour.

In the hospital, order Dulcolax for constipation or bowel cleansing. Your patients will often prefer it to embarrassing enemas. And you can be sure nurses will appreciate the saving in time and effort.

Dulcolax tablets taken at night usually result in a bowel movement the following morning. A combination of tablets at night and a suppository the next morning generally cleans the bowel thoroughly in preparation for surgery or special procedures. Keep in mind, however, that the drug is contraindicated in the acute surgical abdomen.

Dulcolax®...it's predictable

bisacodyl



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Geigy Pharmaceuticals, Division of Geigy Chemical Corporation, Ardsley, New York 10502

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–The lowest priced tetracycline–nystatin combination available–



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The history of medicine in the Old Commonwealth in the last century is a work every doctor should be proud to own. Complete and intensely interesting.

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Each Cough Calmer™ contains the same active ingredients as a half-teaspoonful of Robitussin-DM®: Glyceryl guaiacolate, 50 mg., Dextromethorphan hydrobromide, 7.5 mg. A. H. Robins Company, Richmond, Virginia 23220

A·H·ROBINS

Symbols in a life of psychic tension

B.A.
cum laude

V.P.
at thirty-two

ECG
and complete examination normal (persistent palpitations)



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Nutley, New Jersey 07110



Rx

Valium® (diazepam) *t.i.d.* and *h.s.*

B.A. (*cum laude*)...V.P. (at thirty-two)...symbols that illuminate the quality of a life...the satisfactions of achievement, as well as its price...the pressures and stresses that can often create cardiac manifestations of psychic tension. For this kind of patient—with no demonstrable pathology—consider the singular benefits of Valium (diazepam).

With its pronounced calming action, Valium can relieve psychic tension promptly, attenuating its somatic signs and symptoms. Further, Valium is distinctly useful when somatic and depressive symptomatology (secondary to psychic tension) coexist. And Valium is generally well tolerated; in proper maintenance dosage, it seldom dulls the senses or interferes with functioning.

When psychic tension-related insomnia appears, an *h.s.* dose added to the *t.i.d.* schedule helps promote sleep.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

Valium® (diazepam)

2-mg, 5-mg, 10-mg tablets *t.i.d.* or *q.i.d.*

to help relieve psychic tension
and its somatic symptoms

So he'll breathe easier:

relieve anxiety while you relieve pain.

Relief of pain is usually a major goal in traumatic conditions. But often of importance, too, is alleviation of anxiety and tension that may heighten patient discomfort.

Single-prescription, non-narcotic Equagesic may effectively relieve pain. *And* ease anxiety and tension.

TABLETS

Equagesic®

(meprobamate and ethoheptazine citrate with aspirin)

Wyeth®

IN BRIEF.

Contraindications: History of sensitivity or severe intolerance to aspirin, meprobamate or ethoheptazine citrate.

Warnings: USE IN PREGNANCY: Safety for use during pregnancy or lactation has not been established; therefore, it should be used in pregnant patients or women of child-bearing age only when the physician judges its use essential to the patient's welfare.

Precautions: Keep out of reach of children. Not recommended for patients 12 years old or less. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate in susceptible persons—as alcoholics, ex-addicts, severe psychoneurotics—has resulted in dependence or habituation. Withdraw gradually after prolonged excessive dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance, with resultant slowed reactions and impaired judgment and coordination. If drowsiness, ataxia or visual disturbances (impairment of accommodation and visual acuity) occur, reduce dose. If symptoms persist, patients should not operate machinery or drive. After meprobamate overdose, prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels, and hyperventilation are reported. Give cautiously and in small amounts to patients with suicidal tendencies. Treat attempted suicide (has resulted in coma, shock, vasomotor and respiratory collapse and anuria) with gastric lavage and appropriate symptomatic therapy (CNS stimulants and pressor amines as indicated). Two instances of accidental or intentional significant overdosage with ethoheptazine and aspirin have been reported. These were accompanied by CNS depression (drowsiness and lightheadedness) but resulted in uneventful recovery. On basis of pharmacologic data, CNS stimulation could be anticipated, with nausea, vomiting and salicylate intoxication (requires induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, and observation for hypoprothrombinemic hemorrhage [usually requires whole blood transfusions]).

Adverse Reactions: Ethoheptazine and aspirin may cause nausea with or without vomiting and epigastric distress, in a small percentage of patients. Dizziness is rare at recommended dosage. Meprobamate may cause drowsiness, ataxia and rarely allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses. Such patients may have had no previous contact with meprobamate and may or may not have an allergic history. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. If allergic reaction occurs, discontinue meprobamate; do not reinstitute. Severe reactions, observed very rarely, include fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. These cases should be treated symptomatically including, when indicated, such medication as epinephrine, antihistamine and possibly hydrocortisone. A few cases of leukopenia, usually transient, have been reported on continuous use. Rarely, aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported, almost always in presence of known toxic agents.

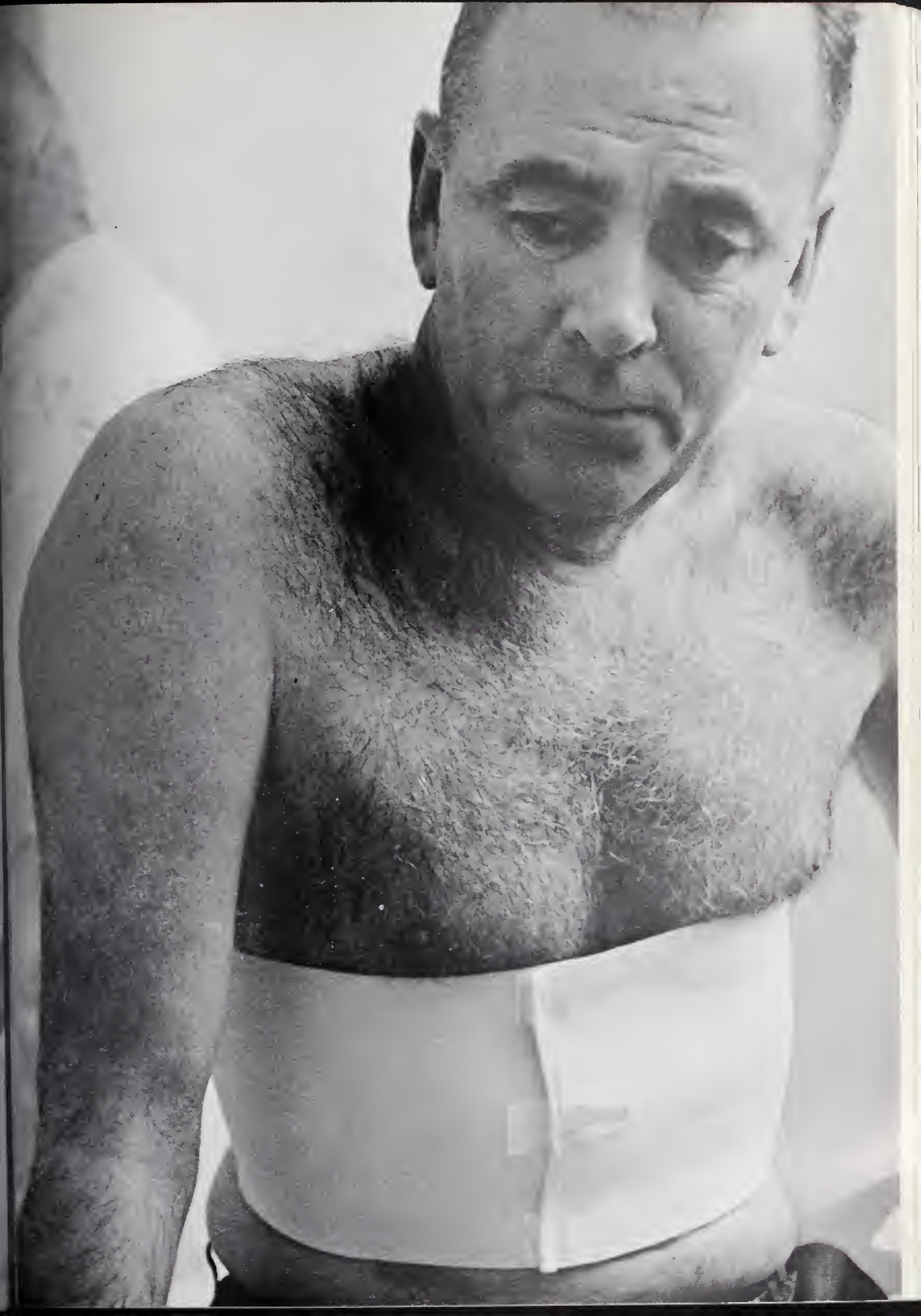
Overdosage: See precautions section for management of overdosage.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa.

Photo professionally posed.





no gag





DIA-QUEL actually tastes good

DIA-quel contains the only therapeutically active ingredient of paregoric—tincture of opium. This has been combined with homatropine methylbromide and pectin to make a sensible antidiarrheal formula.

By leaving out paregoric's outdated preservative—bitter-tasting camphor—we've produced an antidiarrheal that is good-tasting, as well as effective and prompt-acting in acute, nonspecific diarrheas and their accompanying "cramps." It is DIA-quel, a clear, red liquid with a pleasant cherry flavor.

Each teaspoonful (5 ml.) of DIA-quel Liquid contains:
Tincture of Opium... 0.03 ml.—Equivalent to 0.75 ml. of paregoric.
(Warning: May be habit forming)
To reduce hypermotility and frequency.

Homatropine Methylbromide... 0.15 mg.
A safe dose for mild spasmolysis to curb cramping and griping.

Pectin... 24. mg.
Demulcent, adsorbent. Helps form stools.

Alcohol 10% by volume.

In case you're curious, back in the 1700's paregoric was being used for diarrhea, but since the state of the pharmaceutical art was extremely primitive, fungus growth in the medication was a problem. Bitter-tasting camphor was added to prevent such growth and anise oil was added in an attempt to cover up the camphor taste. DIA-quel Liquid is a modern formulation that does not contain either of these outdated ingredients.

Caution: With use of DIA-quel Liquid observe the usual precautions associated with opium derivatives and anticholinergics.

Dosage: Usual adult dosage: 1 or 2 tablespoonfuls (15 or 30 ml.) t.i.d. or q.i.d. Usual children's dosage (Clark's rule): ½ to 2 teaspoonfuls (2.5 to 10 ml.) t.i.d. or q.i.d.

How Supplied: In 4 fl. oz. (118 ml.) band-sealed bottles.

DIA-quel is a Federally exempt narcotic (Class X) preparation. Where state law permits, no prescription is necessary.

For a complimentary sample of DIA-quel, simply mail your request to us on a signed prescription blank.

DIA-QUEL LIQUID

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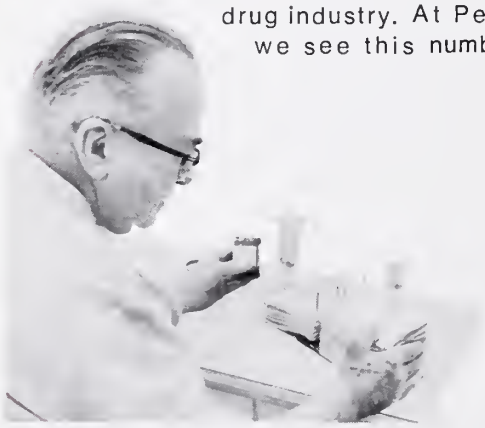
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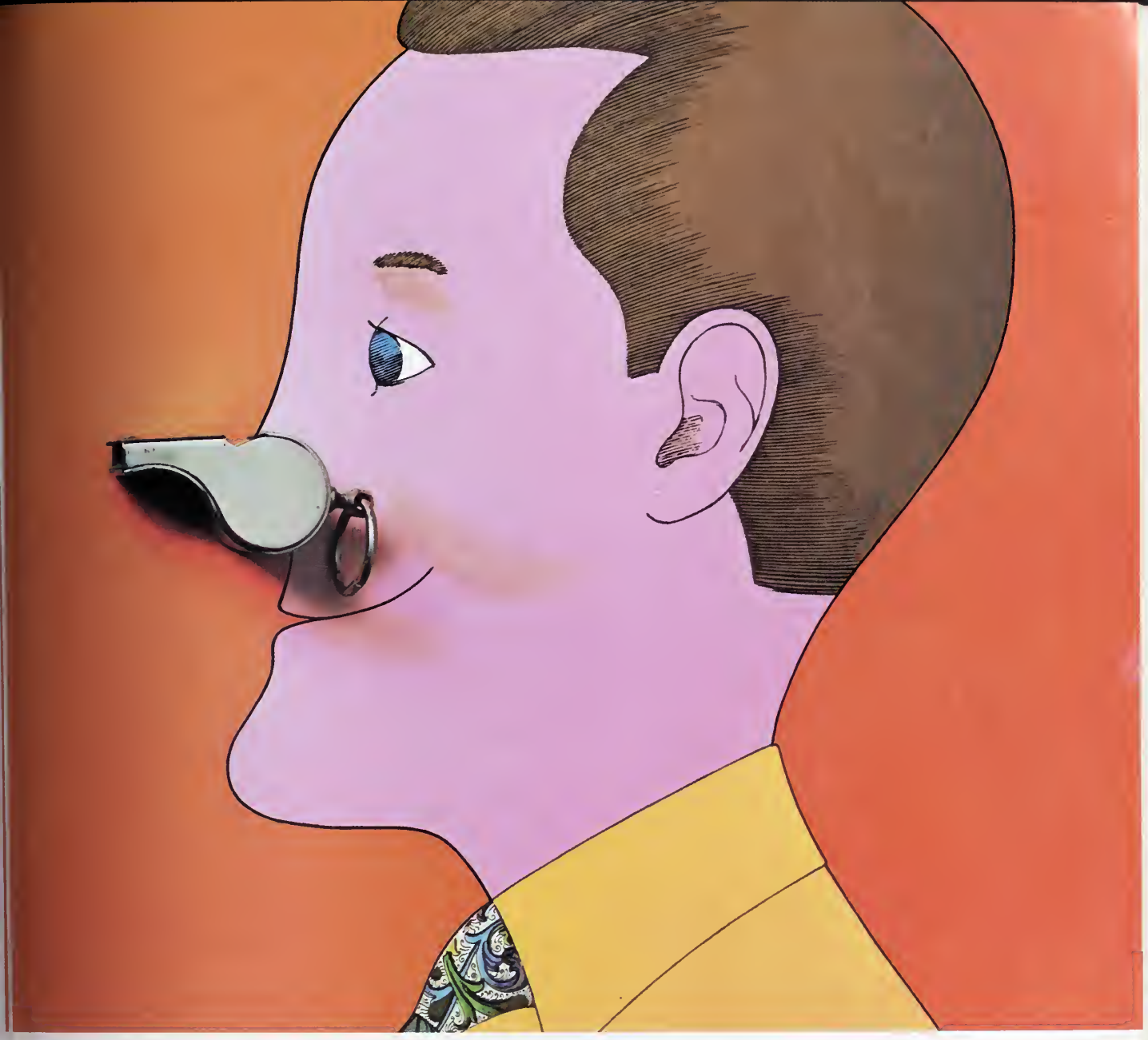


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The symbol-disc should be smooth with no sharp corners that could cause discomfort. It is best for men to wear the disc around the neck using tarnish proof metal and suspended from a chain. Ladies might prefer to wear a bracelet or a watch band, known as a Medilog, which gives details on the inside. Diabetes in children and young people is usually more serious and harder to control making their use of the Emergency Medical Symbol of no less importance than its use by older diabetics.

Definitely every diabetic who takes *insulin* should wear an Emergency Medical Symbol and his physician should certainly see that he does. The symbol I wear has on one side the Caduceus and on the reverse the words "I TAKE NITRETAMIN AND COUMADIN FOR HEART INSULIN FOR DIABETES."

When requested to write this "Guest Editorial" I was asked to give some personal experiences that show the advantages of wearing an Emergency Medical Symbol.

On one occasion when traveling by train to New York I fell asleep on a day coach and slept into a most severe insulin reaction. Had it not been for the symbol I was wearing, the end result certainly would have been unfavorable. When I could not be awakened, the conductor on the train, thinking I had had a heart attack, called ahead to Philadelphia to have an ambulance waiting. One of the passengers noticed my symbol and immediately started necessary and correct treatment. The result was that I awoke promptly in a parlor car and was quickly revived. The station in Philadelphia was called, the ambulance dismissed and I proceeded on my journey without further difficulty.

On another occasion I slept into a most severe insulin reaction in a hotel and was found by a bell boy who saw my symbol, called an ambulance and I was quickly rushed unconscious to the hospital.

I know of a minister of a church in Boston who had a severe insulin reaction, was arrested and jailed, which resulted in great embarrassment to him and his congregation. Another instance occurred in our own State of Virginia when a patient in an insulin reaction was arrested, jailed and, because no one recognized his condition, died. The arresting officer thought he was intoxicated with alcohol.

Undoubtedly there have been hundreds of such instances in which had a symbol been worn by the patient much difficulty would have been avoided and many lives saved.

V. Stanley Hart, D.D.S.

Medical Arts Building
Richmond, Virginia 23219

The Occupational Pneumoconiosis of Coal Miners as a Public Health Problem

LORIN E. KERR, M.D.
Washington, D. C.

A system which would protect the young miner from injury to his health by this serious occupational hazard would reap a great dividend not only in human contentment but also in productivity.

WHY, IN 1968, are we concerned with coal workers' pneumoconiosis as a public health problem? It is not a new disease. It has been with us at least 150 years. More than a century ago physicians accepted coal dust as a cause of breathlessness among coal miners as well as the black lungs observed at autopsy.[1,2] It soon became well known that when coal miners lived long enough they might be disabled by coughing and breathlessness which would slowly get worse until a welcome death would intervene to stop their suffering. Emile Zola vividly describes this disability and its effects on the miner, his family and the community, in his famous novel "Germinal" which portrays the horrors of the French coal mines about 1880.

Early in the 20th century it was thought that this condition ceased to exist because of improved ventilation in the mines. There was also opposition to the idea that coal dust was a hazard. In fact, some medical leaders claimed that it was not only harmless but possibly beneficial.[2] Also, there were those who began to say that the pulmonary disability occurring among coal miners was due to the silica in the dust. By 1915 silica had gained the dubious distinction of being labelled the only important occupational dust.[3] To this day, many American physicians and lawyers believe that silicosis still remains the only disabling dust disease.

Contrary to these statements, myths, and attitudes, we have come full circle. Coal dust in miners' lungs can produce a slowly progressive fatal disease. In 1942 British investigators defined the long known clinical entity called miners' asthma as "coal workers' pneumokoniosis."[4] It has been reported to occur in every coal mining country in the world. Evidence accumulating indicates that coal workers' pneumoconiosis is today the most important occupational dust disease in America.[5] It is conservatively estimated that 125,000 active and former coal miners have some stage of this disease and that of this number nearly 50,000 may be disabled by the disease.[5-13] These figures are the results of many years of occupational exposure. In the last 20 years alone at least one million miners have been exposed to a daily dose of coal dust—truly a public health problem of great magnitude.

Medicine, from its inception, has been concerned with the individual patient presenting himself to the doctor who took the history, made the examination, stated the diagnosis and instituted treatment. This is the way we have all been taught and the

Presented at the Symposium on Coal Workers' Pneumoconiosis sponsored by the Virginia State Health Department and Wise County Medical Society, September 20-21, 1968, Clinch Valley College of the University of Virginia, Wise, Virginia.

KERR, LORIN E., M.D., *Assistant to the Executive Medical Officer, United Mine Workers of America Welfare and Retirement Fund, Washington, D. C.*

way medicine has continued to be practiced, until recently.

Public health, in contrast, has been concerned with those matters which affected the lives of large numbers of people. First and foremost has been the control and prevention of communicable diseases. Early examples are the Hebraic dietary proscriptions, particularly as they relate to the eating of pork. During the Renaissance it was the quarantining of ships that helped to stop the spread of cholera and typhus. Today, throughout the world the great plagues poliomyelitis, typhus, malaria and smallpox are being eradicated. In the industrialized countries the major public health problems now confronting us are the chronic diseases, mental illness and accidents. The successful resolution of these problems requires that public health include in its armamentarium the provision of personal health services.

Occupational health, a recognized subspecialty of public health, has been concerned primarily with the hazards at work. These have always differed from those occurring elsewhere. The earliest recorded evidence of this is in the 5000-year-old hieroglyphics of the famous African physician, Imhotep.[14] He reported on the diagnosis, treatment and prognosis of 48 different injuries sustained by warriors and the slaves who built the pyramids. His writings were the first and for many centuries the only accurate description of traumatic brain damage. While Ramazzini, the usually acknowledged father of occupational health, did in 1700 describe many job-related illnesses, as well as injuries, traumatic medicine remained the major focus of attention until after World War I. The end of this period was presaged by an increasing interest in certain occupational diseases such as silicosis and plumbism. The warnings of these and other dangers were sounded by the famous pioneer investigator Dr. Alice Hamilton,[15] but unfortunately many of her warnings still go unheeded. The preeminance of toxicology and industrial hygiene continued until the early days of World War II when it became clear that the worker and the need to fit the job to the man were of prime importance.

By 1946 all health concepts had broadened still further. In that year the constitution of the World Health Organization defined health as a "state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity." Dr. Karl Evang, the Director-General of the Norwegian public health services and a brilliant leader of WHO, recently stated that this definition was a useful formulation but a totally unattainable goal for nations and individuals.[16] There is no healthy person that could not, under different and more favorable circumstances, be healthier and enjoy a fuller life. Conversely, disease is also relative. "There does not exist an individual so healthy that he could not be improved. We are all handicapped in some way or another and therefore in need of constant, intelligent and understanding rehabilitation." There is no sick, disabled, poorly developed or malfunctioning individual who does not possess some faculties which can be utilized to give a lift in health and strengthen the ties with society. As Evang pointed out, this relativity of health and disease ". . . makes us all one community" and we, the so-called healthy, should not distance ourselves from the so-called sick. Evang continued to say that "There is an element of discrimination and segregation in putting a wall between yourself and the patient, regardless of whether this wall is made of concrete or is represented by special knowledge and insight or by the doctors' and nurses' traditional white coats." This concept of the doctor, the nurse, other disciplines and the patient working together to find out what is wrong is beginning to happen in medicine, public health and occupational health. Even the surgical case is beginning to be treated holistically rather than as a case or even as an organ.

These concepts were further expanded by Dr. Milton Terris who said that the attitudes of physicians are changing because of remarkable advances both in medicine and society, widespread social upheavals and the unprecedented growth of medical knowledge and capacities.[17] No longer is it heretical for physicians to work together using the full resources of all other health personnel and disciplines. Terris said, "The protection, maintenance, and improvement of health are considered . . . to require the full utilization of social as well as purely medical resources." Prevention of illness and disability is paramount in the modern physician's thinking. Early diagnosis and treatment are his watchword and he assumes full responsibility for rehabilitation and guidance to avoid recurring illness.

These are the same basic principles on which the United Mine Workers of America Welfare and Retirement Fund has operated since its inception 20 years ago.[18,19] The Fund has developed a unique nationwide pattern of personal health services to improve and maintain the health of its beneficiaries. It has fully utilized all the resources available and when these were insufficient the Fund created new facilities and techniques. This is the reason for our deep concern about coal workers' pneumoconiosis which we view as a man-made plague which can and should be eradicated in one generation.[20,23]

Dr. Adolph Kammer, 13 years ago, in searching for the answers concerning coal workers' pneumoconiosis, urged American physicians to reassess earlier decisions.[24] He stated, "Our best observations will be those that encompass the breathless coal miner as a total man, living in a particular kind of community and working in a particular kind of industrial structure. He is a member of a social group in which there are perhaps some fixed thought patterns, particularly as relates to shortness of breath after one has worked underground for a number of years. The reassessment must be made by physicians with this sort of horizon and not by physicians acting simply as lung doctors. Full utilization must be made of good epidemiologic techniques and the best possible case judgments that give full consideration to the miner as a total man."

I have taken the time to develop these concepts because I feel their presentation is fundamental to an understanding of coal workers' pneumoconiosis as a public health problem. Despite five earlier major conferences on coal workers' pneumoconiosis this disease is still not well known or widely recognized in the United States. There are many reasons why American doctors have been reluctant to accept the fact that coal dust is a killer. Until recently little has appeared in American medical journals on this disease and most of the earlier articles were reports on British research and surveys. This lack of concern about coal workers' pneumoconiosis has been due, in part, to a belief that conditions reported in Britain could not exist in the United States. It is also due to the conviction that only silica and dust containing silica are injurious. Moreover, there is the attitude and influence of employer-oriented physicians who avoid facing known facts about the ravages of coal dust in human lungs because to do otherwise could cost money.

Kammer, at the Second Symposium on Coal Workers' Pneumoconiosis, gave two additional reasons for non-recognition of the disease.[24] The first he characterized as an American peculiarity to place exaggerated reliance on animal experimentation in defining an occupational hazard. When these experiments showed coal dust to be non-fibrogenic and the silica content of the coal to be too low to produce silicosis the pulmonary disability among coal miners was claimed to be either unreal or nonoccupational. The second reason is the common human fallacy of placing too great a credence on the opinions of a great man. In this instance it was Gardner, whose animal experiments showed coal dust to have no

fibrogenic capacity. This was further reinforced by the experiments of Sayers and Miller who, along with Gardner and others, erroneously classified coal dust as inert.

Unfortunately, these concepts are reflected in the definition of silicosis which came into usage in 1933[25] and has since been adopted by most of the states providing workmen's compensation for silicosis. By intent it excludes all other dusts and is thought by some investigators to be so lacking in clarity that it denies compensation to many unfortunate workers.[7,12,25-27] The only exceptions in the United States have been Alabama, which passed legislation specifying coal workers' pneumoconiosis as compensable in 1952, Pennsylvania in 1965 and Virginia this year.

Although there is coverage for silicosis in most coal mining states, the qualifying requirements are a legal nightmare. Three years ago 50 percent of the claimants in one state died before final adjudication of their claim. In another state the miner himself must notify his employer and the State Health Department within 90 days of first being informed by a physician that he has silicosis. If he does not take this action, he automatically disqualifies himself for workmen's compensation when he later submits such a claim. If he does notify his employer, as required by law, he knows with great certainty that he will shortly lose his job regardless of the absence or presence of disability. At all times he needs a good lawyer in addition to a good physician. In most states any miner who does qualify for silicosis benefits is black-listed for future employment in the coal mines. The benefits in most states are determined by the stage of silicosis apparent in the x-ray film. There is almost a total disregard of symptoms and clinical evaluation. When this was recently explained to a visiting Mexician physician, he expostulated, "What do they want, a blackboard in his chest?" At no time does the pulmonary disability per se determine the benefits and there is rarely any effort to coordinate rehabilitation with the workmen's compensation awards. Opposition to specifically listing coal workers' pneumoconiosis as a compensable disease is best typified by the recent statement of a chairman of a state silicosis medical board who said he would resign before he would agree to certifying miners with the disease for compensation.

The problems surrounding workmen's compensation vividly depict the impact of physician knowledge and attitudes. This is also reffected in inaccurate or incomplete death certificates. Cor pulmonale is often given as the cause of death with no mention of the coal workers' pneumoconiosis which produced the cor pulmonale. While an accident or malignancy may be the primary cause of death, the dust disease, when known, should be considered a secondary or contributing cause of death. Death certificates are very important in determining the existence of a dangerous dust requiring governmental action for control or eradication. Too often no records mean no action.

The denial or avoidance of known facts by physicians can also determine the publication of information. In 1956 the concern of some physicians about management attitudes effectively blocked the publication of a paper of mine on coal workers' pneumoconiosis in the most widely circulated medical journal in the United States. One can only wonder how many times other medical information vital for the protection of the health of workers has not been published for the same reason. Physician attitudes also influence other groups, such as lawyers, state officials and legislators who are remarkably resistant to the elimination or control of coal dust because of the expense involved.

Recognition by the American medical profession of coal workers' pneumoconiosis as a clinical entity separate and apart from classical silicosis is the first order of business. More than anything right now coal miners need doctors who, regardless of past misconceptions, are able and willing to make a cor-

rect diagnosis of this man-made disease. Once a correct diagnosis has been made it is possible to resolve other public health aspects of the disease.

Medical rehabilitation using clinical and physiological methods requires, first and foremost, a medical determination of the extent of disability. This provides a real opportunity to reassure and encourage those men with only slight x-ray changes that they may not be suffering from a progressive and rapidly disabling disease. The psychological aspects of rehabilitation are quite important; there is a special need for clarity in explaining to the miner the true nature of his disease.

The provision of adequate diagnostic services associated with rehabilitation demonstrates practically to the community and prospective miner a sincere interest in the health of the miner. A system which protects the young miner from injury to his health by this serious occupational hazard will reap a great dividend not only in human contentment but also in productivity.

The urgent necessity for the development of such a program is emphasized by the recent announcement that the U. S. Office of Education is supporting programs to train workers for the bituminous coal industry. It is estimated that at least 49,000 new, trained employees will be needed in the coal mining industry during the next five years. Of these, 30,000 new mining personnel will be needed to replace losses from normal attrition, while opening of some 100 new mines now being planned will create an additional 19,000 jobs. There are 36 persons enrolled in a mining machinery maintenance and repair course in Wise County and this number is expected to double this fall.

Lately I have been haunted by a statement made 10 years ago by Dr. Donald Hunter, the world-famous British authority on occupational health.[28] He said that although coal had been mined in Britain since 1234 it was not until 700 years later that British physicians began to accept the fact that coal dust in miners' lungs produces a slowly progressive fatal disease. He continued to say, "It must be admitted that medical men, by their ill-informed complacency, have a heavy load of responsibility to bear for this failure to discover the true state of affairs, a failure which constitutes what is probably the greatest disgrace in the history of British medicine." I am afraid that we here in America have barely begun to overcome our "ill-informed complacency" and "discover the true state of affairs" regarding coal workers' pneumoconiosis. It would be unfortunate if our failure to take earlier action would be labeled in the future as the greatest disgrace in the history of American medicine.

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The men who try to do something and fail are infinitely better than those who try to do nothing and succeed.—*Selected*

Islet Cell Tumors of the Pancreas

CARRINGTON WILLIAMS, JR., M.D.
Richmond, Virginia

Insulin producing tumors are responsible for troublesome and dangerous episodes of hypoglycemia with their distressing symptoms. These can be diagnosed and can be differentiated from fuuctional hypoglycemia. Surgical removal of the tumor, when this can be done, is curative. Medical treatment is helpful only.

INSULIN-SECRETING *beta* cell tumors of the pancreas are variously named islet cell adenomas, insulinomas or nesidioblastomas. Characteristically they secrete abnormal amounts of insulin, causing hypoglycemia and its resulting symptoms. Recent experience with five patients with islet cell tumors of the pancreas has prompted a review of this subject and a report of these cases. Three of these patients were operated upon within a six month period of time at Stuart Circle Hospital, a private 150-bed general hospital in Richmond. Somewhat in conflict with the usual finding, two of the five patients had malignant islet cell tumors with liver metastases and were therefore nonresectable. The other three cases had solitary islet cell adenomas which were removed successfully, resulting in cure of the patients' symptoms.

The characteristic picture of hypoglycemia is seen in islet cell tumors, but because of the variety of symptoms produced, the diagnosis is unfortunately often delayed as long as four years after the onset of the syndrome. Because of potential brain damage from prolonged hypoglycemia, it is imperative that an early diagnosis be made. Although Whipple's Triad is usually present (i.e., hypoglycemic symptoms, the finding of fasting blood sugars below 50 milligrams per cent, and the relief of symptoms by administration of glucose), in some cases this may not be true, and it is necessary to use more sophisticated means than clinical appraisal to confirm the diagnosis.

Manifestations of hypoglycemia depend somewhat on its degree and generally include the following symptoms: nervousness, trembling, sweating, apprehension, palpitations, mental confusion, headache, unresponsiveness, unconsciousness and convulsions. Partial paralysis may ensue, and repeated episodes of hypoglycemia may result in permanent brain damage. The symptom complex may be relieved by the administration of carbohydrates orally or glucose intravenously, but often patients with bizarre hypoglycemic symptoms are thought to have central nervous system disorders or psychoses. Misinterpretation of symptoms often delays proper diagnosis, and many patients are admitted to psychiatric or neurosurgical services. It is common to encounter obesity in patients with islet cell tumors, since they often find that eating sweets relieves their symptoms and consequently become quite overweight. This is particularly true in long-standing cases where the diagnosis is not made until the condition has been present for months or years.

When the diagnosis of hypoglycemia is suspected, it is important to exclude cases

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of functional hypoglycemia. Low blood sugars with accompanying symptoms are found in *physiologic hyperinsulinism*, in which an overactive response of the islet cells to normal stimuli causes overproduction of insulin. This condition is usually seen two to four hours postprandially and is not seen with fasting or with exercise. Similarly hypoglycemia is found in *alimentary hyperinsulinism* as seen in some cases of dumping syndrome. In this condition, sudden loading of the gut with food passed rapidly from the stomach causes liberation of quantities of insulin, producing symptoms of hypoglycemia which are familiar in these cases. Also in *early diabetes* post-prandial hypoglycemia may result as a rebound phenomenon when the blood sugar falls to unusually low levels after its post-meal peak.

Organic hypoglycemia is commonly due to islet cell tumors of the pancreas or to large non-islet cell tumors such as mesodermal tumors of the abdomen or thorax. In large non-islet cell tumors with hypoglycemia, it is generally possible to make the diagnosis by recognizing the presence of the tumor by its size. It is not known why hypoglycemia is produced by this type of tumor, but it has been suggested that they either store very large amounts of glucose or secrete an insulin-like substance. True islet cell tumors are seldom palpable whereas non-islet cell tumors rarely cause hypoglycemia unless they have reached large size and are easily detected.

Extensive laboratory studies are needed to confirm the diagnosis of islet cell tumors. Unfortunately, the ordinary glucose tolerance test which is the most widely used diagnostic measure is not reliable in distinguishing organic from physiologic hyperinsulinism. Essential for diagnosis are the *intravenous tolbutamide test* and *prolonged fasting*. The tolbutamide test is performed by the intravenous administration of 1 gram of sodium tolbutamide. In cases of islet cell tumor, the blood sugar falls to very low levels within 30-60 minutes and by 180 minutes has not returned to near-normal limits. In some instances of islet cell tumors, such severe symptoms result from tolbutamide injection that it is necessary to terminate the test and to administer intravenous glucose as occurred in one of our cases. This test must be used cautiously because of the severe reactions in strongly positive tests. Another confirmatory test is a *prolonged fast* which may be carried on for as long as 72 hours or until significant symptoms of hypoglycemia develop. During the fast patients are encouraged to stay up as much as possible and to exercise, so as to use up maximum amounts of their carbohydrate stores. In cases of functional hypoglycemia, exercising has no significant effect on the blood sugar, whereas with islet cell tumors exercising can precipitate a typical hypoglycemic attack. In many instances of islet cell tumors the fast must be terminated after a few hours when the blood sugar falls to very low levels and severe symptoms occur.

Other confirmatory diagnostic tests include the *L-leucine sensitivity test* and the determination of *plasma insulin levels* by immuno-assay. The L-leucine test involves oral administration of L-leucine and recording its hypoglycemic effects. The test is indicative only of hypoglycemia but not of its cause, and in normal individuals L-leucine does not usually lower the blood sugar. Plasma insulin levels measured after administration of tolbutamide provide another critical test for insulinoma. In positive tests with islet cell tumors, the serum insulin level reaches its peak five minutes after injection of tolbutamide, while normal values are found with extra pancreatic neoplasia with hypoglycemia. It would seem that the combination of the tolbutamide test with the measurement of serum insulin levels provides the most delicate laboratory means for establishing the diagnosis of islet cell tumors, while careful clinical appraisal of

the symptoms should point to the correct diagnosis.

Once the diagnosis of islet cell tumor has been estabilshed, early operation is indicated. It has been stated that 90 per cent of these tumors are benign, and therefore cure is theoretically possible in 90 per cent. However, the tumors are often small and difficult to locate. Blind subtotal pancreatic resection is often followed by persistence of the symptoms and carries a significantly high complication rate. Thorough exploration is essential in order to locate the tumor and complete removal of all tumors is necessary to relieve hypoglycemic symptoms. Since encapsulation is not always present even in benign tumors, partial pancreatectomy may be necessary, but in some cases simple enucleation of the tumor can be performed. In incurable malignant islet cell tumors, resection of the bulk of the tumor may reduce the symptoms, since the severity of the symptoms depends upon the size of the tumor and the quantities of insulin production. Post-operative complications include hyperglycemia which is usually transient, pancreatitis, pseudocyst formation, and other complications of pancreatic surgery.

Cases of inoperable malignant islet cell tumors present real challenges in management of the hypoglycemic symptoms. *Frequent feedings* help to control the symptoms and in some cases *steroids* are effective. Recently, *glucagon* has been employed with success and *zinc glucagon* in a repository form can be injected for extended sustaining of the blood sugar. One of our patients with extensive liver metastases was managed quite successfully with glucagon and zinc glucagon administered by his wife for over two years after operation. *Diazoxide*, a non-diuretic thiazide, has also been used with some success in relieving hypoglycemic symptoms. Also in some inoperable cases, remissions have been reported with 5-fluorouracil.

Case Reports

Case #1. A 54 year old man retired as a Major General in the British Army in 1962 and enrolled in the Union Theological Seminary in Richmond. He consulted an internist on April 11, 1963, complaining of five episodes over the previous five weeks of early morning weakness, disorientation, sweating and headache occurring when he arose to shave. He had noted that the symptoms were promptly relieved by eating. His wife noted easy fatiguability when he started full-time school, and he subsequently lost about 12 pounds, became disagreeable before meals (very unusual for him), and developed incoordination at the breakfast table.

After preliminary studies including several blood sugar determinations, he was admitted to Stuart Circle Hospital for investigation of hypoglycemia. Physical examination was not remarkable. Laboratory studies were strongly suggestive of islet cell tumor of the pancreas. Eight-hour glucose tolerance test results were as follows:

Fasting—50 mgm %

½ hour —116	4 hours—37
1 hour — 75	5 hours—38
2 hours— 47	6 hours—30
3 hours— 40	8 hours—28

Intravenous tolbutamide test showed the following values for blood sugars:

Fasting—41 mgm %

15 mins.—34	1½ hours—25
30 mins.—28	2 hours—24
45 mins.—27	2½ hours—22
1 hour— 25	3 hours—22

A prolonged fast designed to last 72 hours was begun the following midnight. At 8 a.m. the blood sugar was 56 mgm % and at 12 noon it was 30, and the fast was terminated.

An endocrinologist concurred in the im-

pression of islet cell tumor and surgical consultation was obtained.

Operation was carried out on May 7, 1963, and a malignant tumor apparently arising in the central portion of the pancreas was found with metastases noted throughout both lobes of the liver. Biopsies of the liver metastases showed islet cell carcinoma of the pancreas.

His post-operative course was remarkable in that he lived for nearly three years from the date of operation. Consultation was first obtained at the Sloan-Kettering Institute for Cancer Research and treatment with 5-fluorouracil suggested. The patient declined this course of treatment and managed his symptoms by periodic feedings. The hypoglycemia became more difficult to control by systematic frequent feedings and he was admitted to the National Institutes of Health on March 2, 1964. During this period of study he was treated with prednisone, high protein feeding and zinc glucagon administered at bed time. Thereafter for more than a year and a half, the patient and his wife managed the hypoglycemic symptoms with steroids, regular glucagon, glucagon in the zinc repository form, diazoxide and diet. During this period of time he was able to function as an auxiliary minister in a small Virginia church, although it had been necessary for him to give up his intention to become an ordained minister. He finally died of metastatic islet cell pancreatic carcinoma on March 19, 1966—34 months after operation (at which extensive liver metastases were found) and three and a half years after onset of his symptoms.

Case #2. An 82 year old widow was admitted to Stuart Circle Hospital on April 17, 1963, because of weakness and weight loss. She had noticed lapses of memory and incoordination during the episodes of weakness which occurred after arising in the morning. She lived alone and was hospitalized for study when the spells of weakness became more frequent. Physical examination disclosed a rounded, firm mass in the epigastrium to the right of the midline. Laboratory studies showed a consistently low blood sugar, and the diagnosis of islet cell tumor was entertained. The patient elected because of her age to attempt self-management of her hypoglycemic symptoms, and she was discharged from the hospital.

She was readmitted in a month because of progressive hypoglycemic symptoms and difficulty in managing her diet. The epigastric mass was still present, and repeated blood sugars were below normal. Because of progressive symptoms of hypoglycemia, exploration for islet cell tumor of the pancreas was advised.

Operation was carried out on June 4, 1963, and a hard, nodular mass was found in the tail of the pancreas. The epigastric mass was a large metastatic tumor mass in the right lobe of the liver, and numerous other hepatic metastases were present. Biopsies of liver nodules showed metastatic islet cell carcinoma.

Post-operative management consisted of frequently feedings and parenteral glucose to control the hypoglycemic symptoms. Her status remained essentially unchanged for four months but she then developed an esophageal stricture due to regurgitation from a large hiatal hernia. Gastrostomy for feeding and fixation of the gastric fundus to the under surface of the diaphragm were performed on October 22, 1963. Thereafter, her hypoglycemic spells became more frequent and more difficult to control. On January 1, 1964, the patient began to have massive upper gastrointestinal bleeding and she died on January 3, 1964.

Autopsy findings established the cause of death as ulcerative esophagitis with hemorrhage. There were extensive metastases throughout the liver from an extensive pancreatic islet cell carcinoma.

Case #3. A 35 year old man noticed in early 1962 episodes between meals of fogginess, tingling, difficulty in reading and diplopia. In March 1963 he slept through

the alarm clock's ringing and awoke three hours later as if in a dream. Concentration was difficult between meals but he was "fine" after lunch. On October 26, 1963, after fasting for a blood sugar determination, he was admitted to Stuart Circle Hospital unconscious.

Blood sugar on admission was 40 mgm %. Fasting blood sugar two days after admission was 19 mgm %. Glucose tolerance test showed these results:

Fasting—26 mgm %
1 hour —202
2 hours—332
3 hours—195
4 hours—120
5 hours— 65

17 ketosteroids and 17 hydroxy-steroids were within normal ranges. Prolonged fasting was not carried out and an intravenous tolbutamide test was considered hazardous and was also not done.

Physical examination was not remarkable and there was no evidence of large abdominal or thoracic tumor. The patient's symptoms were relieved by administration of glucose or sweetened juices.

An endocrinological consultant concurred in the diagnosis of islet cell tumor and operation was advised. Surgical exploration on 11-8-63 disclosed a single tumor of the tail of the pancreas. It was enucleated and proved to be a benign islet cell tumor. Postoperative course was uneventful and glycosuria was transient, requiring insulin for 36 hours after operation, and he was discharged on the 13th postoperative day. Recovery was complete and symtpoms have not recurred.

Case #4. A 36 year old housewife began in May 1965 to have fainting spells in the early morning, relieved by eating. She was suspected of a neurological disorder and was studied elsewhere on the neurosurgical service with negative findings. An internist in Richmond was consulted and he suspected hypoglycemia as the cause for her symptoms. On initial hospitalization at Richmond Memorial Hospital, low blood sugars were found but a prolonged fast failed to confirm the diagnosis of islet cell tumor. She was discharged but continued to experience early morning confusion and disorientation.

She was then admitted to the Medical College of Virginia Hospital on November 1, 1965. Examination was not remarkable except for moderate obesity. Skull x-rays were normal and 24-hour urinary 17 hydroxy-steroids were within the normal range. Fasting blood sugars showed levels of 44 mgm. per cent, 33 mgm. per cent and 25 mgm. per cent. A six-hour glucose tolerance tested showed a drop to 32 mgm. per cent at 5 hours, but the patient was asymptomatic. An intravenous tolbutamide test was attempted but 25 minutes after administration of 1 gram of sodium tolbutamide she became dazed and unresponsive and had clonic jerking of the right arm and hand, necessitating cessation of the test and glucose administration. Blood sugar 30 minutes after starting the test was 17 mgm. per cent. A prolonged fast was subsequently attempted and showed the following results:

		Blood sugar
11-4-65		
6:00 p.m.	—Fast begun	
11-5-65		
8:30 a.m.	—Drowsy—no recollection	25 mgm. %
11:30 a.m.	—Asked to walk	49 mgm. %
12:00 noon	—Walked 20 mins. OK	65 mgm. %
4:00 p.m.	—Talked as if drunk	38 mgm. %
6:00 p.m.	—Mildly disoriented	44 mgm. %
10:30 p.m.	—Numb about mouth	46 mgm. %
11-6-65		
12:30 am.	—Irrational,	

	thick speech, thrashing about	38 mgm. %
Fast terminated—Symptoms relieved by i.v. glucose		

Operation for islet cell tumor was then recommended to the patient.

Surgical exploration on November 11, 1965, disclosed a pinkish gray tumor measuring 1.5 cm. in diameter in the tail of the pancreas. The distal 6 cm. of pancreas were resected to remove the tumor and no other nodules were found. Splenectomy was also carried out. Postoperatively there was transient hyperglycemia for 10 days, later reverting to normal, and some drainage of pancreatic juice cleared before discharge. She has remained well since operation with no further symptoms of hypoglycemia and with normal blood sugars.

Case #5. A 71 year old white female for about two years had episodes of dizziness, disorientation and confusion, and for one year she had taken nourishment to relieve these spells. In December 1967 she experienced a short period of unconsciousness during which she fell out of an automobile. She was referred to Stuart Circle Hospital on April 9, 1968, for neurological workup and evaluation of seizures. Neurological studies including EEG and skull films were normal, and hypoglycemia was suspected. Two fasting blood sugars after admission showed low normal values but a six-hour glucose tolerance test showed a drop to 22 mgm. %. A subsequent fast was begun with fasting blood sugar of 22 mgm. % and fall to 14 mgm. % in 10 hours, at which time the fast was terminated. Tolbutamide test was considered too hazardous and was not performed. Liver function studies were normal, as were urinary 17 ketosteroid and 17 hydroxysteroids. Under observation spells of weakness were relieved by sweetened juices, and the diagnosis of islet cell tumor seemed well established.

Operation on April 23, 1968, disclosed a 2 cm. firm rounded mass in the inferior border of the midportion of the pancreas. No other abnormalities were noted. The tumor was enucleated and proved to be a benign islet cell adenoma. Postoperatively there was a transient rise in blood sugars to 146 mgm. % and small doses of insulin were used for three days. She made an uneventful complete recovery and was relieved of her symptoms.

Summary

Islet cell tumors of the pancreas produce symptoms of hypoglycemia relieved by ingestion of food. Bizarre behavior associated with early morning hypoglycemia is misconstrued as being due to neurological or mental disorders, and the diagnosis is often delayed for months or years. Among useful diagnostic tests which aid in the diagnosis are prolonged fasting and the intravenous tolbutamide test. Hypoglycemia from islet cell tumors must be distinguished from functional hypoglycemia and from hyperinsulinism associated with large mesodermal tumors. Operative removal is the treatment of choice. Palliative treatment of inoperable malignant islet cell tumors should include diet, administration of regular glucagon and repository zinc glucagon, and steroids, as well as other supportive measures.

Five cases of islet cell tumors are reported herewith. An interesting feature is that two of the five cases were carcinomas, whereas the overall incidence of malignancy is 10%.

(Case #3 is reported through the courtesy of Dr. A. Stephens Graham).

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The Hazards of Tracheostomy

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Tracheostomy has become a popular procedure and is often considered a minor operation. There is however, a 3% mortality and a 30% incidence of complications.

IN THE FIRST PART OF THIS CENTURY Jackson standardized the indications and technique for tracheotomy for the relief of obstructive laryngeal and tracheal dyspnea. He also advocated the use of tracheotomy preliminary to laryngeal surgery and for the aspiration of bronchial secretions in cases of pulmonary abscess. In 1943 Galloway introduced the concept of tracheotomy for the management of secretory obstruction of the tracheobronchial tree in bulbar poliomyelitis. Ten years later the idea of positive-pressure respiration was advanced by Lassen. Soon other medical conditions—tetanus, barbiturate poisoning, acute infectious polyneuritis associated with respiratory paralysis, respiratory problems in coma following cerebral trauma or cerebral hemorrhage, and respiratory failure associated with pulmonary diseases and chest trauma—were successfully treated by tracheotomy and artificial ventilation.

Thus this ancient operation is now a popular and modish procedure even to the point of the use of the more euphonious term, tracheostomy, which actually means the creation of a cutaneous-mucosal connection between the skin of the anterior neck and the trachea, a technique not generally performed in America. In Europe two true tracheostomy methods are described by Björk[1] and by Hewlett and Ranger;[2] in one operation an inverted v-shaped flap of trachea is sutured to the skin edge, and in the other the lower edge of the tracheal window is sutured to the lower edge of the skin incision, forming a tracheostoma.

FIGURE 1

A—Operative

1. Operative hemorrhage
2. Air embolus
3. Subcutaneous emphysema
4. Mediastinal emphysema
5. Esophageal puncture
6. Pleural puncture
7. Atelectasis
8. Faulty placement of tube into bronchus
9. Operative apnoea from sudden reduction of alveolar CO^2 tension
10. Pneumothorax
11. Injury to laryngeal cartilage

B—Postoperative

1. Postoperative hemorrhage
2. Tracheal and carinal ulceration
3. Tracheal stenosis
4. Tracheal malacia
5. Tracheal granuloma
6. Secondary infection
7. Keloid scar formation
8. Endotracheitis
9. Persistent tracheal fistula
10. Difficult extubation
11. Pneumonia
12. Plugged tubes
13. Tracheoesophageal fistula
14. Perichronditis of cricoid cartilage
15. Tracheal tube obstruction due to over-inflated or displaced cuff
17. Injury to recurrent laryngeal nerves

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Unfortunately the enthusiastic acceptance of tracheostomy for an increasing variety of diseases, and for artificial ventilation in the management of respiratory failure, has led sometimes to its overuse without due consideration of the significant morbidity and the occasional mortality of the operation. The common operative and postoperative hazards of tracheostomy are listed in Figure 1. This formidable catalogue of complications contradicts the statement, recently made, "Tracheostomy is everybody's operation and should be used whomsoever finds need for it."[3] We feel that tracheostomy requires a surgeon skilled in the technical problems of neck surgery and endoscopy, and possessing a sound knowledge of respiratory pathophysiology. Tracheostomy can be fraught with danger and can be a difficult operation. The seriousness of this procedure should not be underestimated.

The number of papers in the literature on the complications of tracheostomy in recent years illustrates the concern of many authors. We should like to review the pertinent articles on the risks of tracheostomy and to report some of our experiences in the past three years.

An analysis of many series of cases of tracheostomies shows the incidence of complications to vary from 19 to 49% and a fatality rate of 2 to 6%. Meade[4] reported on 212 tracheostomies with 71 complications (33%); Davis[5] and his associates reported 35 complications in 155 operations (23%); 27% of Bigler's[6] cases (infants) and 28% of Glas's[7] cases had complications.

McCelland[8] recorded 252 complications in 389 cases, an incidence of 49.3%; 43 of the patients had pulmonary infections; 40 had displaced tubes; 63 had tracheitis, tracheal granulomas, or tracheal ulcers; 21 had obstructed tubes; 16 had surgical emphysema or pneumothorax; 14 had difficult decannulations; 14 had operative complications; 13 had hemorrhages; and 13 had difficult crust formations.

In McCelland's series, 3.4% of his 389 cases died as a result of complications of the operation. However, when McCelland reviewed his cases, he felt that 54% of the patients would have died had tracheostomy not been performed; 27% of the patients benefited from the operation, and in 19% the operation was of no value or the tracheostomy was carried out on an already moribund patient.

Head[9] reviewed 462 cases undergoing tracheostomy. In this group Head thought that .9% of the patients died as a result of the operation; in 12 additional cases, or 5%, the operation contributed to the death of the patient. On the other hand, his analysis showed that 175 patients, or 38%, survived because of the tracheostomy.

In a recent comprehensive article Beatrous[10] analyzed 1,000 consecutive tracheostomies, 895 of which were performed at a public general hospital and 105 at a private general hospital. The fatality rate was 54% at the city hospital and 35% at the private hospital. Beatrous was unable to determine the number of complications in this series. All but 127 of the cases were classified as emergencies.

In a review of 150 consecutive tracheostomies done at the University of Virginia Hospital, there were 39 complications or an incidence of 25%; 4, or 2.7% of the patients died as a result of the operation. In the death of two additional patients the tracheostomy was thought to be a factor. Figure 2 lists the complications found in this series.

Thus tracheostomy, often considered a simple operation or a minor incident in the course of a serious illness, is a risky operation; and the number of mishaps can be greater than in many major surgical procedures.

FIGURE 2

150 CONSECUTIVE TRACHEOSTOMIES
39 COMPLICATIONS—26% COMPLICATION RATE

4 Pneumothorax
2 Tube slipped out—fatal asphyxia
1 Inner cannula plugged—severe respiratory distress
3 Tracheal stenosis
2 Cartilage injury
4 Subcutaneous emphysema
3 Atelectasis
1 Tube too long—against carina
1 T-E Fistula (erosion of post tracheal wall by pressure of prolonged over-inflated cuff)
4 Post-op hemorrhage (2 required exploration in OR)
1 Operative hemorrhage (severe)
4 Tracheo-Bronchitis—Pseudomonas
2 Cellulitis of skin around tracheostomy site
4 Trouble with cuffed tube
1 Persistent tracheo-cutaneous fistula
1 Pneumonia
1 Tube inserted outside of tracheal lumen

Tracheal Stenosis

Tracheal stenosis is one of the many complications occurring after tracheostomy and is one of the most serious. This hazard is said to occur in 3 to 8% of cases. Histologic changes in the trachea can be demonstrated in most patients with a tracheostomy. Friedberg[11] and his associates found carinal apical ulceration in eight of 27 patients following tracheostomy, and ulceration, denudation, and infection in 10 of 27 patients; intact epithelium was observed in only one of the 27 patients examined. In addition, the trauma of aspiration catheters, the pressure of an overinflated cuff or an excessively large tube, and secondary infections, share in producing tracheal granulomas and tracheal cicatrization, the end result of which can be a tracheal stenosis.

Tracheal stenosis can follow tracheostomies of short duration, but more frequently the stenosis develops after prolonged intubations. An increasing number of cases are being reported in the literature, paralleling the expanding incidence of tracheostomies.[12] Ekedahl and Laage-Hillman[13] reported four cases of stenosis in 259 surviving patients in a series of 447 cases of tracheostomies. They felt that patients requiring respirator management were especially vulnerable to tracheal stenosis. We have treated three cases of tracheal stenosis following tracheostomy.

According to Jackson, subglottic stenosis is due to high tracheostomies through the cricothyroid membrane, injuring the cricoid cartilage or the upper tracheal rings. Ritter[14] reported three such cases; in one case apparently only the mucosa was lacerated.

Hemorrhage

Minor hemorrhage during tracheostomy or directly after the operation is usually not serious and is easily controlled. In our series one alarming operative hemorrhage was managed with difficulty; the patient had a tremendous engorgement of the neck veins due to the superior vena cava syndrome. In another case a newborn infant died of hemorrhage during operation. We sometimes shudder to think of the possibility of severe bleeding during "rapid" tracheostomy. Often precise dissection during a planned tracheostomy reveals a large vessel in the midline of the neck or crossing the midline of the trachea. Jarvis[15] reported two cases in which the common carotid crossed the trachea transversely; one of the patients died.

Delayed hemorrhage following tracheostomy can be fatal. Willerson and Fred[16] reported two cases of erosion of the tracheal cannula through the tracheal wall and into a mediastinal vessel. They also found nine similar cases in the literature. Silen and Spieker[17] reported four proved and two suspected cases of fatal massive hemorrhage from the innominate artery following very low tracheostomy. In one of our fatal cases the tracheal cannula eroded through the tracheal wall into the innominate artery.

Dislodged Cannula

Accidental dislodgement of the cannula and asphyxia is a grave hazard. In Head's[9] series the cannula was expulsed in 16 in-

stances; in McCelland's[8] series the tube was displaced in 40 cases with two deaths from this cause. In our experience we know of two dramatic instances. In one case the patient's life was saved by rapid oro-tracheal intubation when the tracheostomy tube could not be replaced; in another instance the patient died before the airway could be re-established.

To deal effectively with this complication, a laryngoscope and endotracheal tube should be a part of the bedside equipment, as well as a spare tracheostomy tube and tracheostomy dilator. The insertion of silk stay sutures at the time of the operation into the lateral margins of the tracheal window is a technique to facilitate reinsertion of the tracheostomy tube. (In the Björk technique of tracheostomy in adults, tube maintenance is said to be safer and easier.)

Cartilage Injury

Operative injury to the laryngeal cartilages is an important complication. In emergency high tracheostomies the cricoid cartilage is not infrequently severed, and the result may be perichondritis of the larynx and laryngeal stenosis. Ritter[14] described three cases of subglottic stenosis following cricothyrotomy; in one case the cricoid cartilage and the first and second tracheal rings were transected in the midline, and in another case the anterior portion of the upper three tracheal rings was replaced by scar tissue. Potondi[18] reported six cases of injury to the thyroid cartilage. All of these patients came to autopsy of causes unrelated to the tracheostomy. Also injury to the esophagus may happen during the tracheal incision. This danger is greater in a struggling patient, especially in children, and in blind attempts to enter the trachea without dissection and tracheal exposure.

Faulty Tube

A faulty tube can be a hazard. Faulty size, shape, or length of the tracheostomy tube or an excessively large cuffed rubber or plastic tracheal tube can bring disaster. In one of our cases the tracheostomy cannula occluded the left main stem bronchus and produced an atelectasis. Chest roentgenograms can easily show whether the tracheostomy tube is in proper position or is impinging on the carina.

The tracheal window should be of adequate size to accommodate the type of tube desired. As reported in the literature, tubes have been found inserted into the anterior mediastinum and even into the esophagus.

The cuffed tube has caused serious tracheal injury and continues to be a technical problem. Any type of a cuffed tube is more hazardous than a non-cuffed tube. Christensen and Duvall[19] reported ten cases of tracheal stenosis following the use of a cuffed tracheostomy tube for artificial ventilation, and other surgeons have experienced a similar complication. Many surgeons have discarded the rubber or plastic type of endotracheal tube for a modified silver tracheostomy tube to which an inflatable cuff has been added.

Subcutaneous Emphysema

Subcutaneous emphysema is a complication that can reach alarming proportions. The more serious extension of air into the pleural cavity or mediastinum is especially common in children. In one of our cases the subcutaneous emphysema was great enough to cause an extrusion of the tracheal tube. An ill-fitting cuffed tube may act like a ball valve, sending air into the tissue with each phase of the resuscitator.

Stress Ulcer

The complication of stress ulcer is now seen in 60% of patients on long-term artificial ventilation for chronic pulmonary disease. The tracheostomy per se is only one factor in producing a stress ulcer, but undoubtedly the aggravation of an unnatural airway, the difficulty in eating, and the constant bother and care attendant to its presence contribute to the formation of the

ulcer. In many hospitals preventative medical measures are instituted at the time of intubation or tracheostomy.

Regardless of these varied complications, the effectiveness of tracheostomy as a life-saving measure is undoubted. The inherent risks of the operation, however, warrant a careful balancing of the danger factors and the anticipated respiratory relief in each case. Many of the hazards of tracheostomy can be avoided by careful planning, and an orderly, unhurried operation. Careful planning should include the use of blood gas studies to foretell progressive respiratory acidosis from the accumulation of carbon dioxide and the pooling of broncho-pulmonary secretions.

In urgent situations an emergency rapid laryngotomy or stab cricothyrotomy should be used; this procedure is immediately followed by a methodical tracheostomy after satisfactory oxygenation has been established. Usually it is better, if possible, to insert an endotracheal tube so that the tracheostomy can be performed with the intratracheal tube or bronchoscope in place. This idea is not new; over thirty years ago one of us helped Gabriel Tucker, Sr., perform a difficult tracheostomy with a bronchoscope in place in a patient with cancer of the thyroid gland. Atkins[20] recently emphasized the importance of preliminary intubation. He felt that timing and planning are the most important elements in a successful tracheostomy. The prompt use of bronchoscopy or endotracheal intubation preliminary to tracheostomy, is now gaining general acceptance. If this method is not possible, forced inflation by direct mask and bag technique and oral airway, may provide sufficient resuscitation to allow a more regulated operation.

An oro-tracheal airway by intubation tends to stabilize the trachea, especially in children, and guarantees adequate ventilation until the operation is completed. The incidence of complications after emergency tracheostomy is two to five times greater than after an elective procedure; and emergency tracheostomy should be an infrequent operation except in some cases of laryngeal injury, massive laryngeal edema, and impacted laryngeal-tracheal foreign bodies. In our series the incidence of complications was 55% in emergency tracheostomies; in elective tracheostomies performed in the operating room for maxillofacial or laryngeal trauma or tumors of the larynx and upper respiratory tract, the incidence was reduced to 16%. Non-emergency tracheostomies not performed in the operating room had an incidence of complication of 22% when an endotracheal tube was not used and 28% when performed with a preplaced endotracheal tube. The haste to install an external tracheal airway should be delayed until respiratory stability, via an endotracheal tube, is achieved by suction and resuscitation. In exceptional anatomical situations when an endotracheal tube cannot be passed, such as a short, thick neck, or gottic stenosis, an immediate tracheostomy is the only alternative.

Technique

The operative dangers of tracheostomy can be lessened by skillful surgery and careful attention to details. The operation should be performed in an operation room with proper illumination, adequate suction, exact hemostasis, and with ample exposure. As soon as the tracheal airway is established, the operator should be alert to the sequence of events following sudden reduction in alveolar carbon dioxide tension. In prolonged respiratory obstruction with an associated hyperkalemia, the sudden change in pH after tracheostomy may produce a cardiac arrest. We lost one patient from this cause. If the usual transient apnea, after the opening of the trachea, is not quickly followed by spontaneous respirations, artificial ventilation should be started.

The use of sterile disposable gloves and aspirating catheters, the availability of trained personnel, and the adoption of asep-

tic techniques in the post-operative period, have reduced the incidence of post-operative tracheal and pulmonary infections. Improved methods of humidification, prevention of obstructing crust formation, and special care of the inflatable cuff tend to reduce many factors tending toward complications.

Tracheostomy in Respiratory Insufficiency

In the past ten years there has been a nine-fold increase in the use of elective tracheostomy in patients with respiratory insufficiency or secretory hypoxia of neural, or pulmonary origin, in certain systemic diseases and in cerebral and thoracic trauma. The indications for tracheostomy in this area must be correlated with the hazards of the operation because these patients are all poor-risk cases, and the added insult of tracheostomy may turn the tide against the patient. In many clinics tracheostomy is used after assisted mechanical endotrachial tube respiration has been tried for a time from one to ten days. An assessment of the patient's progress clinically and by serial analysis of the arterial pH, PCO_2, po_2 levels during the trial period will influence the decision to change from intubation to a tracheostomy. At the present time one-fourth to one-third of our intubated patients require tracheostomy.

The high mortality rate in lower respiratory conditions requiring tracheostomy reflects the precarious condition of the patient rather than the operation itself. Atkins[20] reviewed 526 cases of patients having tracheostomy performed at two teaching hospitals. There were 300 deaths in this series; two of the deaths were due primarily to the tracheostomy. The 57% mortality rate, according to Atkins, is due to the application of tracheostomy to a seriously ill group of patients.

In a recent series of 100 tracheostomies performed by many surgeons at the Memorial Hospital, a community hospital, we found an over-all mortality rate of 44%. The fatality rate for tracheostomies done for upper airway conditions was 11%, whereas the fatality rate for patients undergoing tracheostomy for secretory obstruction following cerebral and chest trauma, and respiratory failure secondary to chronic pulmonary disease was 61%.

The 150 tracheostomies reviewed at the University of Virginia Hospital showed that 42.7% of the patients died of primary disease; Figure 3 records the conditions for which tracheostomy was used.

FIGURE 3

PRIMARY PATHOLOGY

Acute Pulmonary disease	15
Chronic lung disease	23
Laryngeal trauma	5
Upper respiratory tumors	27
Maxillofacial trauma	9
Neurological disorders	22
Neurosurgical problems	15
Thoracic cardiovascular surgery	4
Chest trauma	6
Pulmonary distress following abdominal surgery	6
Drug intoxication	4
Severe burns	2
Myocardial-infarction—cardiac arrest	5
Systemic disease—coma	7

The rapidly increasing incidence of patients with respiratory failure has led to the idea of a special hospital ventilation care unit.[21] The deaths from emphysema alone have increased six times in the last ten years. In addition there are an increasing number of cases of chest and head trauma, drug intoxications, neurologic situations, and patients undergoing open-heart surgery, all of whom may require tracheostomy. We can expect, therefore, a greater number of tracheostomies, and the prevention of some of the hazards of tracheostomy may lower the high mortality rate in this group.

Tracheostomy in Children

Tracheostomy in children needs special mention. The mortality rate for conditions requiring tracheostomy in children is sub-

stantially lower than in adults. This is particularly true for inflammatory diseases of the larynx. Oliver[22] reported a series of 294 operations on infants and children; the mortality was 20%, but this rate was reduced to 5% when the 152 cases of acute inflammation of the larynx were considered. Baxter[23] operated on 100 children with epiglottitis, and there was only one death. Fearon[24] reported the survival of 497 out of 504 children undergoing tracheostomies in a series of 7,771 patients with acute supraglottitis or acute laryngotracheitis. Two of the children's deaths were due to the operation; in these children the tube slipped out and could not be replaced in time.

The range of postoperative complications in children is the same as in the adult except a higher incidence of emphysema and pneumothorax is found. In Oliver's[22] series the incidence of complications was 19%; five deaths were attributed to the tracheostomy. Three cases died when the tube slipped out or was plugged; two of the patients, who died at operation, were found to have a pneumothorax at autopsy. Pneumothorax, subcutaneous emphysema, and mediastinal emphysema occurred in 40 children; six of the children with pneumothorax required chest surgery.

The success of tracheostomy in children lies in prompt action when the indications for the operation develop. Preliminary endotracheal intubation and general anesthesia reduce the incidence of operative mortality and allow for a precise placement of the tracheal tube without pleural injury or the creation of a high negative intrathoraxid pressure with its attendant pulmonary risks.

Comment

When Fitz-Hugh[25,26] reported on the current trends in tracheostomy seventeen years ago, he identified the dynamic pattern of changing concepts and techniques in tracheostomy. The use of tracheostomy in mechanical ventilatory obstruction and secretional ventilatory obstruction continues to expand although the number of tracheostomies in infants and children for inflammatory diseases of the larynx is decreasing because of improved methods of medical management.[27] The emphasis at present is on the revival of the role of endotracheal intubation and assisted ventilation as a substitute for tracheostomy.[28] Improved methods and materials as well as technical advances in the management of orotracheal and nasotracheal intubation are the reasons why this procedure is replacing tracheostomy, especially when an artificial airway of short duration is anticipated. In some institutions endotracheal intubation has reduced the need for tracheostomies by 50%. A soft plastic nasotracheal tube is now being used both in infants and in adults for periods up to five weeks. Prolonged endotracheal intubation has been employed in pulmonary insufficiency in the newborn, following abdominal operations with complicating pulmonary insufficiency, following pulmonary surgery, in head injuries and coma of cerebral hemorrhage, in barbiturate poisoning, emphysema, and other conditions which previously needed tracheostomy. Holmdahl and Lindholm[29] reported on the prolonged use of an indwelling endotracheal tube for assisted breathing in 200 children. They stress the importance of small plastic tubes, moistened air to prevent plugs, and medication to depress the laryngeal motor function.

However, endotracheal intubation is not without risk, especially in children. Striker[30] used nasotracheal intubation in 14 children who had acute laryngotracheobronchitis. Cardiac arrest occurred in five patients during intubation; two of these patients died. Four of the children developed subglottic stenosis. Taylor[31] and his associates reported a case of subglottic stenosis after nasoendotracheal intubation. They believe that this complication is a result of too large a tube, infection, repeated intubations, and movement of the tube during intermittent positive pressure ventilation. Fearon[24] et al.

studied 72 children who had been intubated for eight hours or longer. At least 27 of the children suffered laryngeal damage; 43 of the children did not survive to be extubated; 11 of the 20 autopsies performed on these children showed significant laryngotracheal injury. According to Fearon, late complications of intubation consist of subglottic stenosis, glottic webbing, persistent cough and aphonia, and constitute a higher morbidity rate than is generally realized.

The most serious problem in prolonged intubation — infection and crusting — is combated by adequate humidification, effective suction techniques, and adept medical management. Endotracheal intubation is most satisfactory in patients who need short-term respiratory assistance and in whom excessive secretions are not a problem. In these cases endotracheal intubation is as effective as tracheostomy without many of the complications of tracheostomy.

Finally we should like to comment on the ethics of tracheostomy. Tracheostomy is fundamentally a life-saving operation; many dramatic instances of its power to restore breathing are known to all of you. In the general public's mind, however, tracheostomy is connected more with death than with life, perhaps because the operation is sometimes performed as a last resort in the face of imminent death. Many surgeons feel that tracheostomy should be avoided as a heroic measure in terminal disease. One should search for the moral justification of using so useful an operation to prolong suffering and life when demise is inevitable. In some hopeless situations, the decision to operate may rightfully bring to the patient and to the family the assurance that the terror of suffocation was prevented.

Conclusion

An operation having a mortality rate of 3% and an incidence of complications of about 30% merits study and review. The considerable increase in the use of tracheostomy and assisted ventilation may give the impression that tracheostomy is a minor operation and can be recommended without hesitation. The hazards of tracheostomy, however, are numerous. Fortunately through the prevention of some of the risks of tracheostomy, an improved outlook is being achieved. The prudent choice of patients suitable for the operation, the careful preparation of the patient for surgery (which usually involves the use of endotracheal intubation and blood gas analysis), improved equipment, and better postoperative care are providing a base for significant progress. In advising tracheostomy, the surgeon should carefully consider the inherent risks of the operation and act only when the advantages to be gained outweigh the possible dangers.

The high fatality rate in the group of patients undergoing tracheostomy for long-term ventilation demands periodic critical appraisal of treatment results by those responsible for their care.

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"Taint"

'Taint what we have,
But what we give;
'Taint where we are,
But how we live;
'Taint what we do,
But how we do it—
That makes this life
Worth goin' through it.

—*Selected*

Practical Considerations in Keratoplasties

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During recent years tremendous strides have been made in the techniques of keratoplasty. Corneas that a few years ago would have been considered too bad for this procedure are today being done successfully.

FOR THE NEXT FEW MINUTES we would like to discuss some of the problems found in the vast chapter of keratoplasties and how we are dealing with them today. We emphasize the word today, as many of our problems are still in a state of flux and we are more than receptive to changing some of our techniques when a better method has been found.

During the past 15 years tremendous strides have been made and many of our procedures have become more and more standardized while at the same time we have learned how to deal with some problems by preparatory procedures in order to obtain a final transparent graft.

Age of Donor and Graft

The controversy still exists as to what, if any, is the upper age limit of a donor cornea for a successful penetrating graft. While there are still many surgeons who feel that a younger cornea is best, we personally belong to the school of thought who feels that the age of the donor is not nearly as important as the length of time between death and enucleation and the time elapsed when the cornea is finally used in the operating room. We feel it is essential that the eye be enucleated as soon after death as possible and that the eye be examined biomicroscopically as soon thereafter as feasible. The biomicroscopic evaluation of the enucleated eye becomes ever more difficult with each passing hour and we have therefore developed the routine of recording the hour of examination at our own Eye Bank. By the same token, if we receive an eye from another Bank which does not allow us a good evaluation of its endothelium due to the time passed since death, we personally would not be averse to using it for a penetrating graft if we are assured that shortly after enucleation it was examined and found to have a healthy endothelium. Personally we will not go as far as Dr. Braley in Iowa who will not even slitlamp his eyes, but just look at them with the naked eye, but we would not hesitate to use a 70 year old cornea if we know that on slitlamp examination the endothelium appears healthy. The vital staining of the endothelium with nitroblue tetrazolium as advocated by Kaufman, to our knowledge is not too widely used. We personally think that this is good, as the supply of eyes is still much too limited and the needs here and abroad much too great to permit the wasting of one eye for each keratoplasty done, as is the case with the tetrazolium method and early slitlamp examination in everyday practice has given excellent results.

Size of the Graft

The smallest sized graft which will en-

From the Old Dominion Eye Bank & Research, Inc.

Read before the Virginia Society Ophthalmology and Otolaryngology, May 2, 1968, Virginia Beach.

compass the diseased portion of the cornea should be used. In practice this means that most of our grafts will be between 6.5 and 8 mm. We do not feel that a graft smaller than 6 mm. is ever indicated, as with keratoplasties of smaller size the suture tracs frequently embarrass the pupillary area, negating an otherwise good optical result. If the graft has to be larger than 8 mm., it is absolutely essential that four iridotomies or iridectomies be performed, one in each quadrant, as failure to do so will bring about an almost certain glaucoma with irreversible opacification of the graft. Should the condition of the host eye require a graft of 10 mm., then the entire iris as well as the lens should be removed in order to have some hope of obtaining a clear graft. Should the condition require a lamellar graft of 10 mm., we would be faced with the difficult technical problem of dissecting such a large graft in the recipient eye, when staying in the proper cleavage plane becomes almost impossible. In such cases it is easy to perform the dissection if one uses two concentric trephines, one a 6 mm. and the other a 10 mm., dissecting first the outer circular rim and then proceeding to dissection of the inner 6 mm. button. The dissection of the donor eye of such a very large lamellar graft is also difficult, however, as the eye can be rotated in each and every direction, it is not nearly as difficult as the dissection of the recipient eye.

It should be needless to stress it, but proper technique requires that in penetrating keratoplasty the donor button be prepared first, while in lamellar keratoplasty the recipient bed should be dissected first, so that if accidentally this recipient bed becomes more shallow or deeper than originally intended, the donor button can be fashioned accordingly.

Suture Material

We have eagerly adopted every finer suture material as it has become available. It is interesting to see how just two sizes finer silk make a marked difference in the immediate aspect of the scar line. Routinely we now use four isolated sutures of seven O black silk in the cardinal positions. After these sutures have been tied, we use a running suture, baseball stitch type of eight O black silk, without any knots, which will allow us to put whatever tension we want on the graft and will make for a perfect closure. We have used at one time eight O virgin silk but personally have not been too pleased with the results. The white silk could not be well seen and dying it with methylene blue always was a cumbersome and not too tidy procedure.

McPherson has reported on the satisfactory use of six O collagen sutures. While from a theoretical standpoint the collagen material should be satisfactory, the rate of reabsorption of the knots leaves much to be desired and besides, the surgical trauma is much less with a seven or eight O suture, so that at least for the time being we are not planning to change from our seven to eight O silks.

Routinely we remove four cardinal sutures after 15 days and the running baseball suture between three and four weeks. For those of you who have, for years, struggled with numerous isolated sutures, we can only highly recommend the continuous suture, as suture removal becomes much easier and safer for the patient.

Immune Homograft Reactions

The old "maladie de la greffe" of the French authors is still with us and while it may be somewhat better understood today, we still do not have potent weapons against it. The opacification of a graft from a few days to several months following uneventful surgery is still a baffling and most disappointing complication when it occurs in a case where the condition of the host eye led us to expect a good result. As most of the antibodies are in the corneal epithelium, it has now become almost routine practice to vigorously wipe off the epithelium before

keratoplasty. By the time of the first dressing, three days after surgery, the epithelium is again covering the entire graft due to active sliding from the host epithelium. We instill steroid ointment from the first postoperative dressing and routinely keep all our patients on Medrol Medules 8-12 mgm. daily for the first two weeks to be tapered off at that time. If there is the slightest suggestion of diffuse edema of the graft, we will not hesitate to keep the patients on systemic steroids for several months following surgery. If at any time the graft does become edematous and even worse, cloudy, we will inject 1.0 to 1.5 cc. of Depomedrol subconjunctivally. As the steroid in contact with the puncture wound in the conjunctiva will interfere with wound healing, it is essential that this subconjunctival injection be given with a long retrobulbar needle, injecting as far from the puncture wound as possible.

Vascularization of Host Cornea and Graft

This problem is intimately related to the previous point of discussion as highly vascularized corneas produce the largest number of homograft reactions.

Vascularization of the cornea is our most baffling problem and no entirely satisfactory answer has as yet been found. In the past we have used beta radiation but the results have not always been entirely successful and we feel that some cases of poor wound healing were due to excessive radiation. There are three different steps we will now take in cases of heavy vascularization. We will do a complete peritomy and resuture the conjunctiva 3-4 mm. from the limbus, leaving bare sclera all around the limbus. We will cut with a knife each individual vessel which can be identified and cauterize the cut ends. This can be a most laborious step, but one which is very worthwhile. We have attempted to do the same, using cryotherapy, but the results have been most disappointing.

In those cases where we feel that peritomy and cauterization will not be sufficient, we do both of these procedures and combine them with a full thickness preserved graft in a lamellar bed. This will, in most cases, markedly improve the tectonic structure of the cornea and frequently clear even the surrounding cornea, so that a penetrating graft can be done inside the lamellar bed after eight to 10 months. It is amazing to see how much a preserved cornea can improve the whole picture, so that a most unfavorable case acquires a better prognosis occasionally ending with a completely clear cornea so that a later penetrating graft will become unnecessary.

The foregoing are some of the most frequently encountered problems. I would like to conclude with a plea to those among us who are not doing keratoplasties routinely. We see patients who have been told repeatedly that their corneas are too bad to benefit from a keratoplasty. We have frequently operated on such cases and obtained good results. It would seem proper, therefore, that the decision whether anything can or should be done, be left to those who are frequently doing those procedures and are more familiar with the latest techniques.

Addendum. Since this paper was presented, a new suture, Ten O Ethilon (nylon), has been developed by Ethicon. We are now using this suture for our continuous baseball stitch closure of penetrating keratoplasties. This new suture is so fine and well tolerated that it can be left in place for several months with resulting better final aposition of the graft.

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Peritoneal Adhesions

Prevention with Polyvinylpyrrolidone (PVP) and Dextran

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Many techniques for the prevention of peritoneal adhesions have been investigated. Animal work using solutions of material with a molecular weight higher than albumin shows good results. The solution is instilled into the peritoneal cavity and reduces the incidence of adhesion formation. Criteria for substances to be used in future animal and perhaps clinical work are suggested.

PERITONEAL ADHESIONS have been known for nearly 175 years and efforts to prevent their formation have been so extensive and multidirectional, that selection of an effective approach may require judgment of a computer. The contradictory results in any single approach by different investigators have caused a pessimistic attitude among the profession. Investigation is still undertaken and the results are added to the crowded literature. In general, the effort to prevent adhesions has been made in the following directions:

Meticulous technic to minimize the initial trauma.

Prevention of fibrin formation.

Resolution of fibrinous membrane.

Separation of the injured peritoneal surfaces.

Lubrication of the injured areas.

Early stimulation of the peristalsis.

Inhibition of fibroblastic proliferation and collagen formation.

In extensive review of literature by Boys[1] in 1942, only intraperitoneal injection of Heparin was favored. The effectiveness of varieties of substances such as electrolyte solutions, hypertonic glucose, citrate, oils, amniotic fluid, and enzymes has been critically rejected. In 1942, Lehman and Boys[2] emphasized the preventive value of Heparin and reported a 65% reduction in reformation of peritoneal adhesions in dogs. The action of Heparin was related in prevention of coagulation and fibrinous adhesions. Since Heparin is potentially a dangerous drug, and prevention of hemorrhagic complications requires special precautions and perfect postoperative observation,[2] its clinical application has not been met with enthusiasm.

Recently Dimethylsulfoxide, 1 gm/kg/day for 34 days by intraperitoneal injection[3] has been found effective in Wistar rats, but further confirmation is required to support this optimistic report.

At present, more attention is focused on the separation of raw areas for prevention of formation and reformation of peritoneal adhesions. This approach seems to be worthy

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of consideration, but because of a few failures, further standardized animal experiments are indicated. Along this line, amniotic fluid, with its transient popularity, has been abandoned. Statistics obtained from Boys' [1] review show a 42% reduction of adhesions in guinea pigs and 35% in rabbits, with no effect in rats and dogs. Other solutions, isotonic or hypertonic are injected into the peritoneal cavity by different authors. Electrolyte solutions have not been found effective, but 20% solutions of glucose have given an average reduction of 14.5% in dogs, 52% in rabbits and 27.5% in guinea pigs, as statistically quoted by Boys.[4,5,6,7,8,9]

Intraperitoneal solution of silicone with viscosity grade of 20 centistokes was used in 14 rabbits.[10] 50 cc. was found to be preferable to 15 cc. and 30 cc. Adhesions were absent in 10, minimal in four, and present in 100% of the control group. This favorable result was not supported by Del Rosario,[11] using 6 cc/kg of 350 cs. in mongrel dogs, and by Frey, Brody and Thorpe[12,13], in rats, using 10 cc. of 20 cs., 350 cs. and 1000 cs. In experiments 12 and 13, thicker adhesions and granuloma formation were noted in the silicone treated animals.

Dextran in normal saline solution is used by Choate[14] in prophylaxis of adhesions in rats, and by us[16] in prevention of reformation in rabbits. Choate concludes that, Dextran 35* is more effective than 75. In two experiments in rabbits,[15,16] Dextran 75 reduced reformation of the peritoneal adhesions by 79%, PVP.k30** by 88% in one group, and 77% in another group compared with 7%-23% in control groups. This paper presents the reported experiments[15,16] and attempts to measure the volume of Dextran 75, PVP.k30 and PVP.k60 solutions remaining in the peritoneal cavity at 24 and 48 hours. It also proposes to explain the mechanism by which intraperitoneal injection of a high molecular weight (M.W.) substance would prevent formation or reformation of the peritoneal adhesions.

*Dextran 75 consist of polymers with mean M.W. of 75,000.

**K-value is a function of mean molecular weight. K30 is equivalent to 40,000 and K60 to 160,000.

PVP.k30 and K60 was supplied by the General Aniline and Film Corporation.

We thank Mrs. Maxine Hubbard and Mr. Clarence Gaskins for their contribution.

Methods and Materials

In two experiments, A and B in rabbits, visceroparietal and intervisceral adhesions were formed to evaluate the effect of lysis, intraperitoneal injection of PVP.k30 and Dextran 75 in prevention of their formation. In experiment C, PVP.k30, PVP.k60 and Dextran 75 solutions were introduced into the peritoneal cavity to evaluate the volume remaining at 24 and 48 hours. Experiment D, investigated the healing process taking place after peritoneal injury.

A. *First stage*—A total of 23 domestic rabbits from four and a half to five pounds were anesthetized with intravenous pentothal and ether drops. Under sterile technique, following a lower midline laparotomy, 5 cm. to 7 cm. in length, the large bowel and opposing parietal peritoneum were scraped with a knife blade to produce hyperemia. Ten to 30 mg. of sterile talcum powder, U.S.P., was applied to the denuded areas and the abdomen was closed.

Second stage—Under similar conditions, relaparotomy was performed and adhesions were lysed by sharp and blunt dissection. The extent of adhesions was measured in square centimeters of the involved visceral surface and for simplicity graded as follows:

Grade 4: over 30 sq. cm.
Grade 3: between 20 and 30 sq. cm.
Grade 2: between 10 and 20 sq. cm.
Grade 1: between 1 and 10 sq. cm.
Grade 0.5: one or two strands.
Grade 0: no adhesions.

In seven control rabbits, the abdomen was closed and in 16 rabbits, 60 cc. to 180 cc. of 6% PVP.k30 solution with average M.W. of 40,000 was injected through a polyethy-

lene tube at the completion of the first layer closure, after which the tube was removed.

Third stage — Relaparotomy was performed between six to 76 days and the adhesions were measured and similarly classified.

B. The same procedure as experiment A was followed in 19 rabbits with an average weight of four pounds; the deviations were as follows:

Talcum power was replaced by absorbable powder (Bio-sorb).

100 cc. of PVP.k30 was injected in the second stage in five rabbits after lysis and 100 cc. of 6% Dextran 75 in normal saline (Gentran) in 7 rabbits.

Final laparotomy was performed 14 days following the second stage.

C. Three groups of domestic rabbits were anesthetized. Under sterile technique, left para-median laparotomy, 1 cm. to 5 cm. in length was performed. A #14 polyethylene tube was placed in the peritoneal cavity through the incision. Muscular layers and peritoneum were closed with a running suture of 3-0 silk. The tube was removed after completion of injection. Had any leakage been present, additional sutures would have been placed. The skin was closed with interrupted 3-0 silk sutures. In relaparotomy at 24 and 48 hours, the amount of fluid present in the peritoneal and left pleural cavities was measured by weighing of the sponges introduced in the cavity to absorb the remaining fluid. The sponge technique was found reliable and its accuracy was confirmed by diffusion method, when RISA was used.

180 cc. of solutions was injected in five pound animals and 150 cc. in those of four pounds. As 100% of PVP.k60 solution was present in the cavity in 24 hours, several determinations after injection of 100 cc. were made.

The solutions employed were as follows:

group 1—6% Dextran 75 in normal saline (Gentran).

group 2—6% PVP.k30 in normal saline.

group 3—6% PVP.k60 in normal saline.

When leakage was present in the abdominal wall, the animal was excluded from this study due to an observation that, "if leakage occurred, all the fluid had escaped".

D. In this experiment, abrasion of visceroparietal peritoneum together with cecal crush and also abdominal incisions were evaluated for healing in 24 to 48 hours and the literature concerning pathology of peritoneal healing was reviewed.

Results

In experiments A and B., the formation of adhesions by abrasion of the visceroparietal peritoneum and application of powder was extensive and dense. In experiment A, when 60 cc. to 180 cc. of 6% solution of PVP.k30 was injected into the peritoneal cavity of 16 rabbits after lysis, a 77% reduction in reformation of adhesions were recorded, compared to 7% in seven rabbits in the control group.

The results in experiment B paralleled those of A, and both are condensed in figure

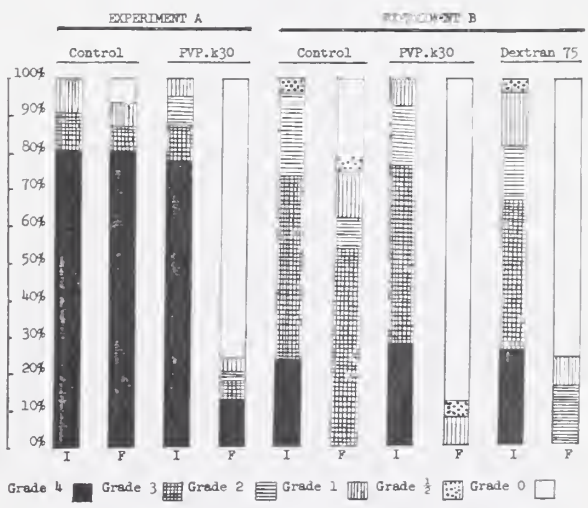


Fig. 1

one. When Dextran 75 and PVP.k30 solutions were used and compared with the con-

trol group, a reduction of 88% with PVP. k30, 79% with Dextran 75 and 23% in the control was noted (table 1).

The results of experiment C are shown in table two. When 180 cc. was injected, an average of 63% of the initial volume was present at 24 hours in Dextran 75, 59% in PVP.k30 and 100% in PVP.k60 groups. At 48 hours, the fluid left in the cavity was 38.3%, 4.8% and 83% respectively (table two).

There was no immediate complication, except leakage into the layers of the abdominal wall. One animal died of bronchopneumonia. All animals resumed normal activities following recovery from anesthesia.

TABLE 1

EXPERIMENT B: INITIAL AND FINAL ADHESIONS IN CONTROL AND TREATED GROUPS

	Control		PVPk30		Dextram 75	
	Initial	Final	Initial	Final	Initial	Final
	4	3	4	0.5	4	0
	3	3	3	1	3	0
	3	2	3	0	3	2
	3	1	2	0	2	0
	2	2	1	0	1	1
	2	1			1	0
	0.5	0.5			0.5	0
Total of grades	17.5	13.5	13	1.5	14.5	3.0

Adhesions were graded from 4 to 0 according to the extent. Reduction in reformation are 23% in control, 88% in PVP.k30 and 79% in Dextran 75 groups.

In experiment D, the raw areas created by abrasions, crushing of the large bowel with Kelly clamp and laparotomy incisions were found to be partly covered at 24 hours and almost completely covered at 48 hours by a fibrinous membrane which lacked cellular elements on the surface. Coverage of the silk sutures used for closure of the abdominal incision was similar to the neighboring traumatized area.

Comment and Conclusion

Intraperitoneal introduction of high M.W. solutions, such as Dextran with 75,000 mean M.W., PVP.k30, 40,000 and PVP.k60, 160,000, was found to remain at 24 hours at 63%, 59% and 100% respectively. Table two documents that a solution with a higher M.W. remains in larger volume at 24 and 48 hours. Considering the relation between the average M.W. of a polymer and the rate of peritoneal absorption, it seems that by further investigation, selection of a solution to remain for a desirable time in the peritoneal cavity would be feasible if consistency was noted in the other animal species.

Among the different approaches utilized for prevention of formation and reformation of the peritoneal adhesions, we were impressed by the reports, when separation of

TABLE 2

RESULTS OF INTRAPERITONEAL INJECTION OF THE HIGH M.W. SOLUTIONS. EXPERIMENT C

Type of Solution	Volume Injected	24-Hours No.	24-Hours Min. cc.	24-Hours Max. cc.	24-Hours Aver. cc.	48-Hours No.	48-Hours Min. cc.	48-Hours Min. cc.	48-Hours Aver. cc.
Dext. 75	180 cc.	8	38	162	117	7	0	200	69
M.W. 75,000	150 cc.	2	140	150	145	3	17	74	42.6
PVP.k30	180 cc.	10	12	176	107	5	2	35	14.3
M.W. 40,000	150 cc.	2	41	69	55	3	0	4.5	1.5
PVP.k60	180 cc.	1			180	5	45.5	203	143
	150 cc.	2	133	167	150	1			38
M.W. 160,000	100 cc.	7	18	264	100	2	0	10	5

Table two represents volume of the fluids remained at 24 and 48 hours following injection in three groups of rabbits. It documents the decrease in rate of absorption when M.W. of the solute is increased.

the raw areas were attempted by macromolecular weight polymers such as Dextran 75, PVP.k30 and Dextran 35. The two unfavorable results are reported in Holtzman rats[16] and Wistar rats.[17] No explanation has yet been given for the contradictory results in rats and rabbits. Additional experiments in the other species of animals are required to confirm the effectiveness of similar approach for human application.

The preventive action of Dextran 35 and 75 in formation of peritoneal adhesions was related to its non-polarity which modifies the electrical potential of the raw areas, and alters accumulation of fibrin.[14] The former hypothesis was not confirmed in our experiment using Dextran 75 in the cavity following injury to the visceroparietal peritoneum.

Gross and microscopic study in 48 hours revealed formation of a smooth fibrinous membrane over the raw areas, including silk sutures. In review of the literature, pathology of the peritoneal repair is reported by Glucksman[18] and Hubbard.[19] Hertzler,[20] as quoted by Hubbard, has shown that "when a defect was made in the parietal peritoneum of animals, the entire surface became endothelialized, and not gradually, from the border, as in epidermitization of skin wounds". Others have confirmed that the visceral peritoneum regenerates in a similar manner. Mussgnug,[21] states that, "by 24 hours following peritoneal injury, the fibrinous membrane in the adherent areas is so firm that in lysis of fibrinous adhesions, the underlying musculature will be exposed". In a microscopic report by Hubbard[19] the parietal peritoneal defect was found to be covered by a fibrinous membrane in 24 hours, in 48 hours occasional fibroblasts were present on surface and by 72 hours, the membrane had been covered by a smooth, continuous layer of fibroblasts. Introduction of solutions had markedly reduced the formation of adhesions, such solutions remained in the peritoneal cavity in 24-48 hours, and it is concluded that whatever repair had taken place within this period of time, it would have been sufficient to keep the raw areas apart. Healing which occurred in this period, rendered loss of adhesive characteristic of the involved areas. The value of this initial acellular membrane is supported by different experiments.[14,15,16,21] It seems reasonable to believe that when the raw areas are covered with a smooth membrane, the adhesion is unlikely to form and a fibroblastic or mesothelial cell coverage, even though is formed at a later date, would not seem to be required in prevention of reformation of peritoneal adhesions.

Experiments A and B with intraperitoneal injection of PVP.k30 were initiated after review of the literature and observation of an optimistic attitude toward its value in the majority of reports.[21,22,23] PVP.k30 consists of polyamine polymers with average M.W. of 40,000 ranging from 5,000 to 120,000. Its highest M.W. resembles globulin; the medium products, albumin; and the lower polymerized compound, peptons. The macromolecular particles are passed slowly across the capillary and glomerular membranes and can be retained in reticulo-endothelial system for extended period of time, but functional blockage, kidney or liver damage, or incidence of tumors have never been associated with its use in humans. Its application in our experiments was aimed to support the hypothesis that solutions with M.W. higher than albumin (40,000) can be retained in the peritoneal cavity due to slow rate of absorption and it would keep the raw areas apart for a period of time which is required for the formation of the foregoing, non-adhering membrane.

It seems feasible, for future experiments and perhaps clinical application, that the choice of a polymer, saccharides or amine with a M.W. higher than albumin and with a desirable rate of absorption is indicated. These could be metabolized after absorption rather than passing through glomeruli. Such a solution could be used in the presence of impaired renal function and would eliminate reticulo-endothelial retention such as macro-

molecular polymers in the PVP or Dextran solutions.

Leakage of the fluid into the abdominal wall is a problem which occurred more frequently (20%) when 180 cc. of fluid was used, but incidence was markedly reduced with 150 cc. and did not occur with 100 cc. of either solution. The closure of the first layer would require a meticulous surgical technique for prevention of leakage, and this layer should be inspected prior to closure of the superficial layers.

Summary

Intra-abdominal injection of Dextran 75 and PVP.k30, intended to separate the raw areas after lysis of peritoneal adhesions in rabbits was found effective in prevention of their reformation.

With increase in the molecular weight of a solution, the rate of the peritoneal absorption decreased.

A review of the literature disclosed that peritoneal repair is completed in three to five days. Our animal experiments suggest that when the raw areas of peritoneum were kept apart for 24 to 48 hours, a smooth fibrinous membrane would form and adhesions were unlikely to occur.

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Neurilemmoma of the Vagus Nerve

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This rare tumor is usually benign. The diagnosis is likely to be made only at operation unless it is regularly considered when there is a mass in the neck.

THE NEURILEMMOMA, one of the neurogenic tumors, occurs only rarely in the vagus nerve during its cervical course through the neck. The number of these tumors has been variously reported, but probably is less than thirty.

Stout[1] has placed the neurilemmoma, neurofibroma and ethesioneuroblastoma under the heading of neurogenic tumors. The neurilemmoma is generally regarded as arising from the nerve sheath cells or cells of Schwann. Thus it would be an ectodermal tumor.

Although the neurilemmoma of the vagus nerve is rare, the occurrence of the neurilemmoma as a tumor of the head and neck is disproportionately high in the total number of these tumors. The neurilemmoma has been reported as originating in nearly all nerves and nerve branches of the head and neck.

The problem found with this tumor is a problem common to all rare diseases: correct diagnosis. The following case is reported to serve as additional enforcement for the consideration of the neurilemmoma when the clinician diagnoses the mass in the neck.

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Presented at annual meeting of Virginia Society of Ophthalmology and Otolaryngology, Virginia Beach, May 1968.

Case Report

This 14-year-old white female was first seen March 22, 1967, with a one year history of a slowly enlarging painless mass in the left neck. There was no history of dysphonia, erythema or fluctuation in the size of this mass. Upon examination, a 6 x 4 x 4 centimeter mass adjacent to and beneath the sternocleidomastoid muscle was palpated, easily movable laterally but movable only with difficulty in the vertical directions. Palpation did not produce a cough. Preoperatively, the diagnosis was lateral cyst of the neck even though there was no evident fluctuance. Transillumination was unrewarding.

At surgery, a transverse incision was placed in a skin crease of the left neck and appropriate superior and inferior flaps were raised. When the sternocleidomastoid muscle was retracted posteriorly, it was apparent that this tumor was originating from the region of the carotid sheath. It had a pink to gray color and was quite firm. Some consideration was given at this period to carotid body tumor, but this mass lacked the brown and purple color and slightly fluctuant consistency of the carotid body tumor. Slight additional dissection revealed the tumor originating in the vagus nerve superiorly. The transverse incision made dissection awkward but it was not necessary to place additional incisions in order to completely remove the tumor. The resected specimen was 5-6 cm. in length, making anastomosis of the interrupted vagus impossible.

The wound was appropriately closed after frozen section diagnosis confirmed the surgical opinion of neurilemmona.

The patient experienced no respiratory

difficulty postoperatively, and although her voice was weak for approximately 10 days, within a month she had the usual lusty voice of her age group.

Indirect laryngoscopy one week postoperatively revealed the left cord in the paramedian position, and at one month there was obvious compensation of the right cord. At one year postoperatively, there seemed to be a lessening of the compensation and possibly some motion of the left cord.

Discussion

Most authors agree that the neurilemmoma only rarely presents in a malignant state. Kragh[2] et al. in 1960 reported four cases of malignant neurilemmoma based upon histological evidence of pleomorphism, increased cellularity and mitotic figures with a clinical course compatible with malignancy. Stout has suggested that the malignant form of the neurilemmoma be referred to as malignant Schwanoma.

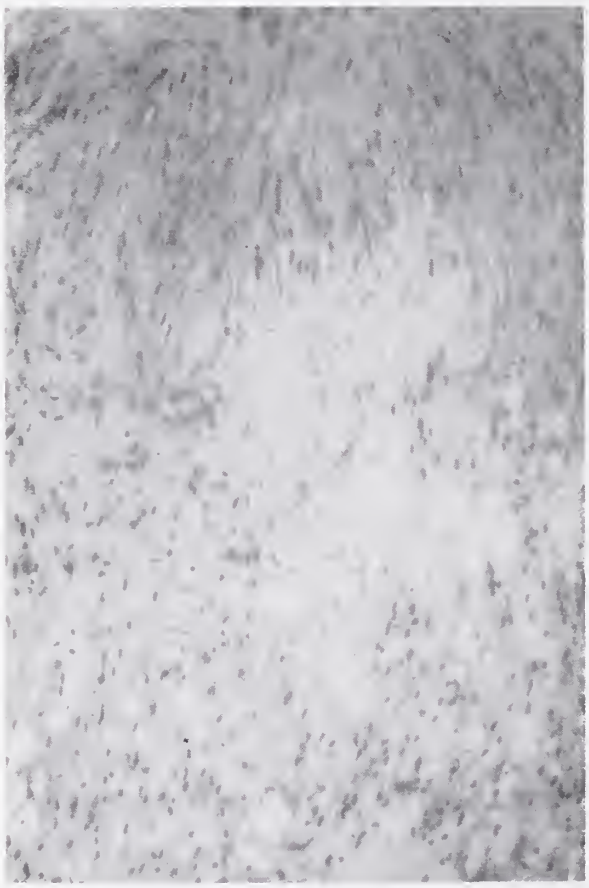


Fig. 1. A medium power photomicrograph showing the transition from Antoni A histology above to Antoni B histology below.

The benign neurilemmoma will almost always display two characteristic histologic patterns. Antoni A consists of a delicate arrangement of connective and reticular fibers with rows of aligned nuclei with intervening spaces devoid of nuclei (palisading). (Figure 1, upper half). Antoni B consists of loosely arranged Schwann cells set about small cystic spaces and abundant reticulin network. (Figure 1, lower half and Figure 2).

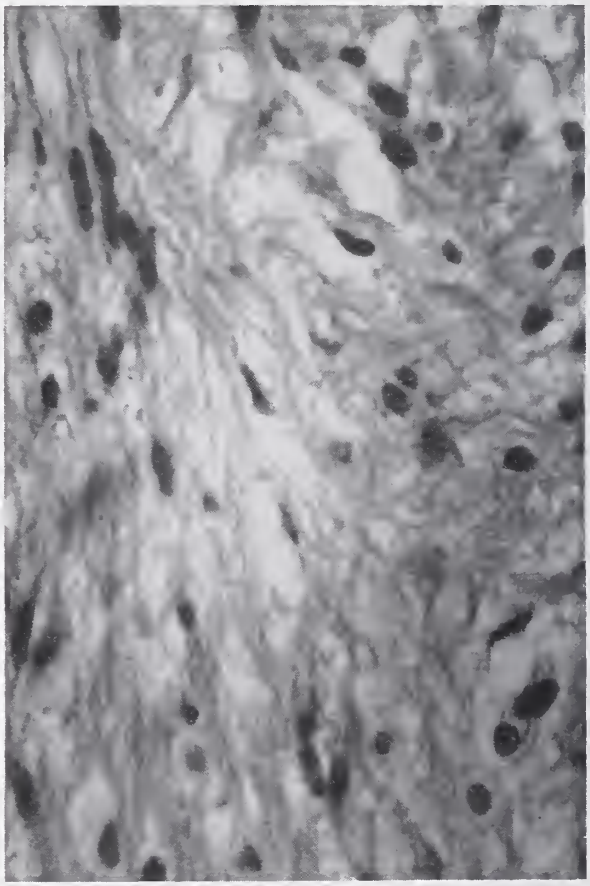


Fig. 2. This high power photomicrograph shows the Schwann cells set in their reticulin network.

The therapy of choice for the benign neurilemmoma is surgical resection with a minimal margin of normal tissue or even simple enucleation. The latter is possible because these tumors arise from the epineurium splaying the nerve fasciciles across

the encapsulating surface making enucleation technically possible at times.

Leichtling[3] et al. have suggested that spasmodic cough produced by light palpation of a lateral neck mass is pathognomonic of these tumors of the vagus nerve. Although this was not specifically tested for in this single case, no cough was produced by preoperative examination and palpation. Probably with few exceptions this rare tumor of the vagus will continue to be diagnosed at surgery.[4] Although resection of the tumor in this case would have been less difficult had the incision paralleled the sternocleidomastoid, the cosmetic advantages of the transverse incision seem to outweigh other considerations.

High section of the vagus nerve was typically represented by the patient in this case. One should not anticipate respiratory distress with unilateral recurrent laryngeal nerve paralysis. Compensation by the right vocal cord occurred promptly. There seems to be no precise explanation for the apparent return of motion in the left cord. Occasionally, there are reports of transient tachycardia with section of the recurrent laryngeal nerve even unilaterally. No other physiological abnormalities should be anticipated.

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Blue Cross of Virginia and Blue Shield of Virginia

Have inaugurated a network which flashes claims information over 100 miles in five seconds between a TV-like screen in the Norfolk district office and a central computer in Richmond.

This system is one of the first in Virginia connecting a computer center to distant video "display tubes" with instant picture responses and is the first fully operational program of its kind among the national Blue Cross Plans.

It is the first component of a new network joining the organizations' central computer files in Richmond to the various Virginia district offices. The link is part of an expanding computer system developed to give faster service to more than one million persons served by Blue Cross of Virginia and Blue Shield of Virginia.

Under the new program, a Blue Cross and Blue Shield subscriber can call the organizations' Norfolk district office with questions about coverage and related matters.

A claims analyst then types the contract number into a typewriter-like device which flashes the figure through telephone lines and into the computer center in Richmond. The computer transmits information about the subscriber's coverage in less than five seconds onto a video screen in the Norfolk office.

Details transmitted from Richmond include the subscriber's benefits, recent medical bills, payment dates, and other contract information which ordinarily will fill several typewritten pages.

Similar networks will soon be installed in many eastern and central Virginia hospitals, giving them instant access to the Richmond computer for billing and claims.

Osteitis Pubis Complicating Inguinal Herniorrhaphy

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Osteitis pubis, as a complication of inguinal herniorrhaphy, is fortunately rare. It is surprising that it does not occur more frequently.

IN THE COURSE of reviewing complications subsequent to inguinal herniorrhaphy our attention was directed to one patient who developed osteitis pubis. Although mentioned several times in the literature there are to our knowledge only four documented cases of osteitis pubis after inguinal hernia repair.[1,2] It is also interesting to note that in the surgical monographs on hernia there is no mention made of osteitis pubis as a postoperative complication. Because of its rarity and interesting clinical considerations a case report is presented.

J. M. P., a previously healthy 42 year old white male underwent elective left inguinal herniorrhaphy on September 11, 1962. A McVay type of repair was performed for a moderate-sized direct hernia. The patient had an uneventful recovery and returned to work in about five weeks. Approximately six weeks post-operatively the patient developed persistent and increasing pain in the medial aspects of both thighs. These complaints localized primarily to the right groin and thigh, and when seen in the office there was marked tenderness and spasm of the right adductor muscles particularly close to the pubis. The symptoms were aggravated by activity and somewhat relieved by heat and analgesics. He was then seen by an orthopedic surgeon who made the tentative diagnosis of "adductor bursitis, right lower extremity". Local injection of a steroid medication resulted in a marked relief of the symptoms. When re-evaluated in two weeks although generally improved, definite pain and tenderness had developed in the region of the pubic symphysis. In mid-December 1962 laboratory and x-ray studies were carried out. The only abnormal laboratory result was an elevation of the sedimentation rate to 52 mm. X-rays of the pelvis revealed a slight widening of the symphysis with irregularity of the margins and a suggestion of localized osteoporosis. A diagnosis of osteitis pubis was made at this time and a therapeutic regimen of rest, local heat, a sacro-iliac belt and analgesics was instituted. Over a six week period there was gradual resolution of the symptoms except for occasional pain in the ischial rami and tuberosities, particularly while sitting. In March 1963 there was noted to be a recurrence of the left inguinal hernia which was subsequently repaired on September 15, 1964. When recently seen in April 1968 the only residual effects are slight discomfort in the ischial tuberosities after prolonged sitting on a firm surface.

Osteitis pubis is an uncommon self-limited disease of unknown etiology with a characteristic pattern as to signs, symptoms and clinical course. Since first reported in 1924 by Beer[3] the vast majority of reports have been concerned with osteitis pubis as a

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post-operative complication of urological, gynecological, or obstetrical procedures. Only sporadic reports referrable to general surgery, external stress, or closed injury are available.[4,5,6,7]

There is much controversy as to the specific cause of osteitis pubis and many theories have been proposed,[8] however none of these have been proven beyond doubt. The three commonly accepted etiologic factors are trauma, infection, and vascular impairment (venous stasis). It appears that a combination of two or all three are present in most patients.

The onset of symptoms generally occurs from two to ten weeks after surgery, when pain of a varying degree develops over the symphysis pubis and along the medial aspects of one or both thighs. There is progression of the pain with spasm of the adductor muscles and at times the rectus abdominis. Almost any activity produces excruciating pain so that in walking the patient resorts to a "duck-waddling" type of gait. The most diagnostic sign is localized tenderness over the symphysis pubis. A low grade fever is often but not always present. Laboratory findings demonstrate an elevated sedimentation rate with or without a mild leucocytosis or anemia.

Radiographic studies usually confirm the diagnosis but it must be remembered that they only become present two or more weeks after the onset of symptoms. Characteristically there is a widening of the symphysis with periosteal irregularity and superficial erosion of the cortex. Quite commonly there is also a diffuse osteoporosis or rarefaction of both rami of the pubis extending to the ischium (Fig. 1). X-ray changes consistent with healing are usually noted after one or two months but several years may be needed for reossification and normal bone restoration (Figs. 2 and 3).

As is usually the situation when the exact pathogenesis of a disease is unknown, multiple types of therapy are employed with varying degrees of success. Among the con-



Fig. 1. Initial film in December, 1962 during acute phase of illness. There is widening of the symphysis with ill-defined cortical margins and osteoporosis, especially of the superior rami.

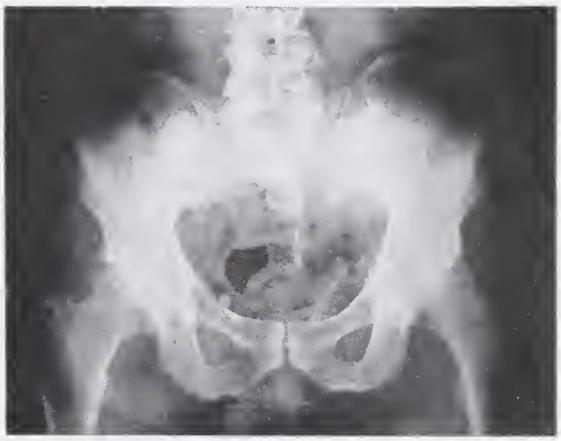


Fig. 2. Follow-up x-ray in December, 1964 shows evidence of partial repair. Sclerotic changes are evident along the medial aspects of the pubic bones. There is less widening of the symphysis and minimal, if any, osteoporosis.



Fig. 3. Most recent study in April, 1968 demonstrates complete reossification and symphysial widening is no longer present. The cortical margins are completely restored with residual evidence of sclerosis.

servative measures are immobilization by bed rest, use of a corset or spica body cast, vitamins, antibiotics and chemotherapeutic agents, local or systemic steroids, anti-inflammatory agents, diathermy, and x-ray therapy. The more radical surgical approaches include curettage, partial or total resection of the symphysis, and arthrodesis.[9,10]

Current trends in therapy are rest and the use of steroids or nonhormonal anti-inflammatory drugs, with surgery being reserved for the more refractory cases.

The recovery phase of osteitis pubis usually extends over a period of a few months but complete recovery may be prolonged to one or more years.

A rather rare complication of inguinal hernia repair has been presented. Considering the possible etiologic aspects of the disease and the increasing utilization of the McVay type of hernia repair it is surprising that more cases have not occurred or been reported. A presentation of this potential complication may be of help to other surgeons confronted with a similar problem.

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Clinicopathological Conference . . . .

Cirrhosis and Bloody Ascites

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Clinical History

First Admission: This 73 year old man with a past history of heavy alcohol intake and hepatomegaly was admitted because of tarry stools and mild hematemesis of six days duration. He had been well otherwise except for bronchitis and some instability on climbing stairs. He was found to be anemic with hypoprothrombinemia, and he was transferred to the University of Virginia Hospital.

On admission spider angiomas and gynecomastia were noted. The liver edge was felt 8 cm. below the right costal margin, and the spleen tip was palpable at the left costal margin. There was no ascites. One plus pedal edema was described. Knee and ankle jerks were decreased, and there was no asterixis.

The urine was normal. Hematocrit was 36% and the white blood cell count normal. Platelet count was 66,000 per cu. mm. Stool was positive for occult blood. Prothrombin time was 15.0 seconds with a control of 12.0 seconds. Serum bilirubin was 1.4 mgm. per cent, and the bromsulfalein retention was 29.9% at 45 minutes. A liver scan was interpreted as being consistent with cirrhosis. Liver blood flow was 17%. Outside films from an upper gastrointestinal series showed questionable varices. A barium enema showed diverticula. He was discharged to return for splenoportography.

Second Admission (7 weeks later): In the interim he had no symptoms, and he denied further alcohol intake. His stools had been brown. Physical examination was essentially unchanged except for questionable slight further enlargement of the liver and spleen.

Hematocrit ranged from 40 to 42%. Platelet count was 63,000 per cu. mm. The prothrombin time was 17 seconds with a control of 11 seconds. Bleeding time was 4 minutes and clotting time was 12 minutes. Alkaline phosphatase was 6.8 Bodansky units. Other blood studies were unchanged. Splenoportography was carried out without incident. Splenic pulp pressure was 520 mm. saline. Small esophageal varices were demonstrated, and the portal vein was patent. On the evening of the day after the procedure he was discharged.

Third Admission (16 days later): Except for increasing fatigue he apparently did well until three to four days prior to his final admission when he had the rather abrupt onset of abdominal swelling and further weakness. He vomited once without hematemesis.

On initial examination he was pale with a hint of scleral icterus. He was rambling

but coherent. Massive, tight ascites was present, and the abdominal organs were not definable. Tenderness was minimal and generalized. Two plus pre-tibial edema was present.

Hematocrit was 34% and the white blood cell count 18,000 per cu. mm. Peritoneal tap produced grossly bloody, non-clotting fluid with an hematocrit of 15%. The supernatant was clear and straw-colored. A repeat paracentesis four days later showed similar fluid with an hematocrit of 11%. Occult blood appeared and remained in the stools. Over the course of the first three days he received three units of whole blood with stabilization of his hematocrit at 37-42%. His white blood count rose to 23,000 per cu. mm. Platelets, which were initially 55,000 per cu. mm., rose to 180,000 per cu. mm.

In spite of general supportive measures, decreasing liver function with somnolence, weakness, jaundice, and rising prothrombin time became progressive. He died on the 15th hospital day.

Clinical Discussion

Dr. Stephen L. Wangensteen: There will probably be questions which I will have as we go along today; I have not completely made up my mind about this problem, although there is a certain direction I will follow. After a prior experience in these sessions, I am not sure all these cases are as straightforward as I have been told.

This man seems fairly clearly to have had cirrhosis of the liver on a nutritional basis. The complicating feature and crux of the problem lies in the differential diagnosis of the rapidly accumulating bloody ascites.

There appears to be ample evidence for the diagnosis of cirrhosis on a clinical basis: heavy alcohol intake, hepatomegaly, recent tarry stools, and hematemesis. Further, spider angiomata, gynecomastia, and an enlarged spleen were found. The platelet count was 66,000, indicating hypersplenism. The prothrombin time was elevated. The bilirubin was elevated, and there was 29% BSP retention. Liver blood flow by the colloidal gold 198 technique was 17%, a relatively normal value. The relatively normal liver blood flow value does not necessarily mean that reasonably advanced cirrhosis is not present; a wide spectrum of blood flow values may be found in various stages of cirrhosis. In fact, in certain current clinical research studies, the choice of operative procedure on patients who have bled from esophageal varices is, in part, based on the pre-operative hepatic blood flow result.[7] The upper GI series suggested esophageal varices and no ulcer was seen. Despite a positive result for occult blood in the stool, there was evidently no active GI hemorrhage at this time.

On the second admission, there may have been some indication of advancement of his disease by the notation of some slight enlargement of the liver and spleen. The alkaline phosphatase was elevated to 6.8 B.U., and the clotting time was also elevated. Splenoportography revealed a pulp pressure of 520 mm saline, definitely a high value. Small esophageal varices were noted and the portal vein was patent; thus, the patient did not have a subhepatic block. Of some interest in this patient would be whether or not there was any extravasation of dye into the general peritoneal cavity during splenoportography.

The patient was discharged and apparently about 12 days later began a downhill course highlighted by massive ascites. There was minimal but generalized abdominal tenderness. The hematocrit was again low and the white blood count was elevated. Paracenteses revealed bloody ascites with a fluid hematocrit of 15% and 11%. Occult blood was again noted in the stool, but apparently not enough to account for the reduced hematocrits. Despite three blood tranfusions the patient continued a downhill course and died in apparent liver failure. Thus, it appears that we have a patient with cirrhosis of the liver, small esophageal

varices, and occult GI bleeding, who developed the rapid onset of massive bloody ascites with subsequent liver failure and death.

What can cause ascites? The most common cause is cirrhosis of the liver, but Tavel[5] lists the following etiologic entities:

1. diseases of heart and blood vessels
   a. right heart failure
   b. pericarditis, acute and chronic
   c. thrombosis or obstruction of hepatic veins, or of the inferior vena cava above the level of entry of the hepatic veins
2. diseases of the liver and portal venous system
   a. cirrhosis
   b. syphilis of the liver
   c. yellow atrophy and hepatitis
   d. thrombosis of the portal or splenic veins, or hepatic artery
   e. arterio-venous aneurysm involving the hepato-portal, or splenic vessels
3. disease of the peritoneum
   a. tuberculosis
   b. simple peritonitis
   c. neoplasm—primary and metastatic, involving peritoneum
   d. hydatid disease
4. female reproductive organ diseases
5. diseases of the kidney
   a. as part of generalized anasarca in the nephrotic syndrome
   b. associated with fluid retention in oliguria or anuria caused by primary renal disease
6. diseases of the blood and lymphatic system
   a. severe anemia
   b. leukemia
   c. obstruction of lymphatic channels draining the intestinal tract by neoplasm or parasites
7. nutritional deficiency states or wasting disease with hypoproteinemia and avitaminosis
8. endocrine diseases
   a. myxedema
   b. hyperadrenalism
   c. with increased antidiuretic hormone (as postulated by Rowntree)[4]
9. traumatic and acute causes
   a. rupture of a hollow viscus: stomach, intestine, bladder, gall bladder
   b. rupture of tubal pregnancy or ovarian follicle
   c. rupture of abdominal aneurysm or spleen
   d. ruptured cysts within the abdomen
   e. intestinal obstruction
   f. acute pancreatitis
10. iatrogenic disease
   a. overloading with fluid and electrolytes
   b. splenoportography with subsequent hemorrhage
11. diseases of unknown etiology
   a. collagen diseases: e.g. disseminated lupus erythematosus
   b. "multiple serositis"
   c. "benign transitory ascites"—Todd[6]

The most common of these causes of ascites are: cirrhosis, carcinomatosis, tuberculous peritonitis, hepatoma, congestive heart failure, pancreatitis, and constrictive pericarditis.

It is interesting that even in cirrhosis the reason for the development of ascites is not clear despite intensive efforts to try to unravel the problem. Portal hypertension, especially at the post-sinusoidal level; hypoalbuminemia and reduced plasma oncotic pressure; sodium retention and electrolyte disturbances; renal dysfunction; abnormalities of lymph formation and lymph flow; and endocrine disturbances—notably those related to aldosterone and antidiuretic hormone—have all been investigated, but the actual relative importance of these factors has not been clearly delineated.

The nature of the ascitic fluid is frequently important. The ascitic fluid that

accumulates in cirrhosis is regarded as a transudate; its specific gravity rarely exceeds 1.008 and is almost always less than 1.015. The protein content is largely albumin and is generally between 1 and 2 Gm%. It would be of some interest to know the results of a centrifuged specimen of the ascitic fluid for protein, since in cirrhosis the ascitic fluid protein is less than 3 Gm% and in carcinomatosis, hepatoma, and tuberculous peritonitis, it is often above 3 Gm%.

The appearance of bloody ascites is not particularly diagnostic. In fact, Mandel and Remenchick have reported that it can occur in uncomplicated ascites.[3] However, this is probably very unusual. Bloody ascites would be more common in instances of tuberculous peritonitis, carcinomatosis, hepatoma, and pancreatitis. In this case, I think we have to include as a possibility a leaking subcapsular hematoma of the spleen as a possibility, since the patient did have a splenoportogram. Also because of this procedure I think that portal vein thrombosis in the presence of cirrhosis of the liver must be considered.

Although the GI series did not reveal peptic ulcer, this does not rule out that possibility. The increased incidence of peptic ulcer in patients with cirrhosis of the liver is clearly established. The apparent occult nature of the gastrointestinal bleeding is more consistent with hemorrhage from a peptic ulcer rather than the usual brisk bleeding associated with bleeding esophageal varices. A small perforated peptic ulcer could account for ascites, but the massive ascites with minimal evidence of peritoneal signs makes this possibility unlikely.

The presence of bronchitis and ascites with some abdominal tenderness might arouse the suspicion of tuberculous peritonitis but other evidence for severe liver disease makes this very unlikely as the sole etiologic entity.

Hemorrhagic pancreatitis could cause ascites as described and also could give generalized abdominal tenderness. An amylase determination of the ascitic fluid should yield an elevated value and give the diagnosis.

May I see the x-rays please?

Dr. William Craddock: We do not have the outside films now. It should be recognized, however, that perhaps 40% of barium swallows will not show varices.

A splenoportogram was done with a Teflon sleeve. Transit time of the dye from spleen to liver was 1.5 seconds, a normal value. To answer one of your early questions, no evidence of subcapsular or intraperitoneal extravasation of the dye was noted. There is inevitable bleeding, however, to some degree; in the majority of cases this is of no clinical significance.

In the liver there is some irregularity of the vascular pattern, consistent with cirrhosis. Small esophageal varices are probably present. There is no evidence of abdominal calcification to suggest aneurysm.

Subsequent plain films of the abdomen from his final admission show considerable fluid; there is nothing specific here to indicate its origin.

The chest films from his first admission show clear lungs with a normal heart and mediastinum. On the last admission the right dome of the diaphragm is elevated with a suggestion of an infiltrate above it. On later films, these changes are more marked raising the question of a subpulmonic effusion, but decubitus films do not confirm this.

Dr. Wangensteen: The chest films demonstrate an elevated right hemidiaphragm and evidence of congestion and/or fluid in the right lower lung field. This suggests a rapidly enlarging liver, and the pleural reaction may suggest necrosis or abscess formation.

May I ask if a liver scan was done?

Dr. David Stone: Yes, and it showed diffuse reduced uptake in the liver consistent

with cirrhosis. There was no evidence of a large filling defect.

Dr. Wangensteen: If one is considering the diagnosis of hepatoma in the presence of cirrhosis, one would like to see a large discrete area of reduced isotope uptake. However, it is most important to remember that the absence of such a picture does not rule out hepatoma. There are frequently occurring forms of hepatoma which are diffuse and infiltrating, and which never form large tumor masses.

No discussion of this particular case would be complete without definite consideration of the possibility of bleeding from the splenic puncture. As Dr. Craddock has mentioned, some bleeding always occurs. In most large series this does not usually amount to much from a clinical standpoint. Our patient today did have some clotting abnormalities which might further predispose him to bleed significantly. However, he got along well apparently for almost two weeks before abdominal swelling occurred. Late significant bleeding can occur after splenoportography, but it is unusual. There was no evidence of dye in the peritoneal cavity at the time of the examination or later, and this also mitigates against splenic hemorrhage as a cause of his last trouble.

Probably the most common causes of bloody ascites are carcinomatosis and hepatoma of the liver.[1,2,5] In this patient we have substantial evidence for cirrhosis of the liver on clinical grounds, and the incidence of hepatoma formation is known to be much augmented by cirrhosis. The appearance of the chest films and the rapid downhill course is also suggestive of hepatoma leading to liver failure. Since there is no good evidence for any of the previously mentioned processes, I feel that he did have an infiltrating hepatoma, perhaps with some necrosis within the tumor.

DR. STEPHEN WANGENSTEEN'S DIAGNOSES:

1. *Nutritional cirrhosis*
2. *Hepatoma, infiltrating type*
3. *? Necrosis within the tumor*
4. *Esophageal varices*
5. *? Peptic ulcer*

Pathologic Discussion

Dr. Munsie: The classical approach to this case taken by Dr. Wangensteen is indeed the correct one, for this is a case of cirrhosis of the liver with a hepatoma. The liver presented a striking picture (Fig. 1).

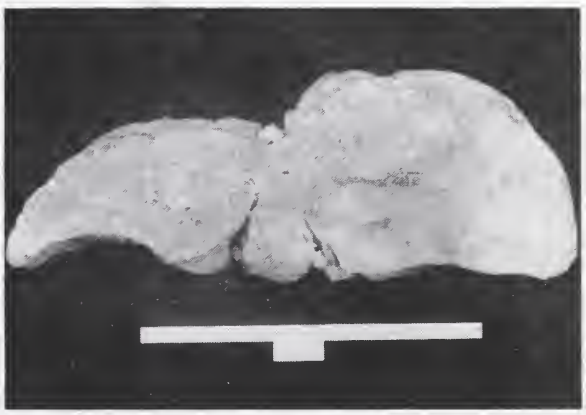


Fig. 1. Gross photograph of a section from the center of the liver showing cirrhosis with irregular sized nodules, thrombi in branches of the portal vein, and extensive necrosis of the right lobe.

It weighed 2400 grams and showed great variation in color due to its various components: normal liver cells, fibrosis, tumor, and thrombus. It was quite obvious on gross examination that this was a cirrhotic liver. A more difficult problem, however, was the morphological classification of this cirrhosis and a correlation with its etiology. The most common architectural pattern consisted of small nodules of liver cells which did not contain central veins and which were completely surrounded by fibrous tissue. This pattern suggested a diagnosis of finely nodular cirrhosis and was consistent with the patient's history of alcoholism. However, there were drawbacks to this morphological diagnosis. First, there was virtually no fat present in the liver cells, although a fat stain (Sudan IV) of sections of this liver showed numerous small collections of fat within the fibrous septae, indicative of a fatty liver in the past. Secondly,

many of the nodules were larger than one would expect in finely nodular cirrhosis, and there were occasional central veins present in these nodules. These features suggested the so-called multilobular or post-hepatitic cirrhosis.

Can these elements be put together into a single concept? I believe that this man did have a fatty liver in the past, at a time when he was a heavy drinker, and that this progressed to a fatty cirrhosis. However, he may have had periods of decreased drinking and good diet, during which the element of fatty metamorphosis could have decreased and regeneration of liver cells in a multilobular pattern could have occurred. Experimental studies in the rat by Hartroft[8] and studies in humans by Popper[9] have suggested that alcoholic cirrhosis may develop a multilobular pattern.

The other major abnormality in this liver is the carcinoma of the liver cells. The hepatoma may present in various forms, both grossly and microscopically. Grossly this liver showed no major tumor mass. In fact, the largest nodule was actually one of regeneration, not carcinoma. The liver was diffusely involved with carcinoma, which is one of the recognized patterns of hepatoma. The other types have large nodules of tumor with one mass sometimes appearing as a "primary growth". On a histological basis hepatomas can show a considerable variation also, with a spectrum ranging from cells which resemble adult liver cells to very anaplastic tumor cells. The cell type in this tumor was the latter, i.e., very anaplastic, highly malignant appearing cells with very little resemblance to liver cells (Fig. 2).

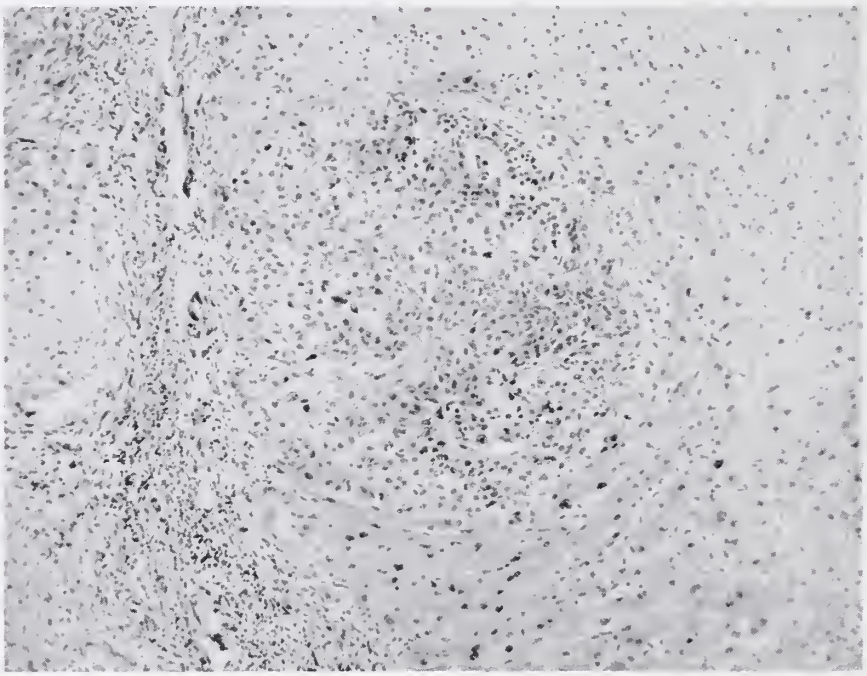


Fig. 2. Microscopic section of liver showing a nodule of anaplastic tumor within a regenerating nodule bounded by a fibrous septum. H&E, X 100.

There are other findings in this case which reinforce the fact that this tumor was primary in the liver. The presence of the tumor in a cirrhotic liver was helpful, although hepatomas may arise in non-cirrhotic livers and other carcinomas may metastasize to cirrhotic livers. An important diagnostic finding was the abundant evidence, both

grossly and microscopically, of vein invasion by tumor (Fig. 3), although the extra- and normal parenchyma. Finally, although there were metastases in several organs, none

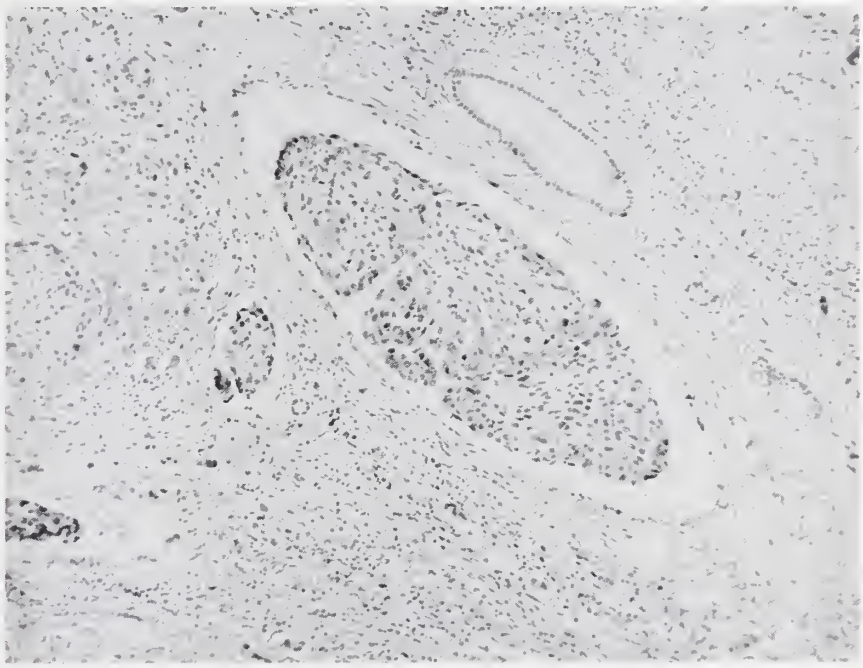


Fig. 3. Microscopic section of cirrhotic liver showing extensive invasion of veins by an anaplastic hepatoma. H&E, X 100.

hepatic portion of the portal vein was free of tumor and thrombus. Probably related to this vessel involvement was the large amount of necrosis involving both tumor and those tumor masses looked like primary tumors in those organs.

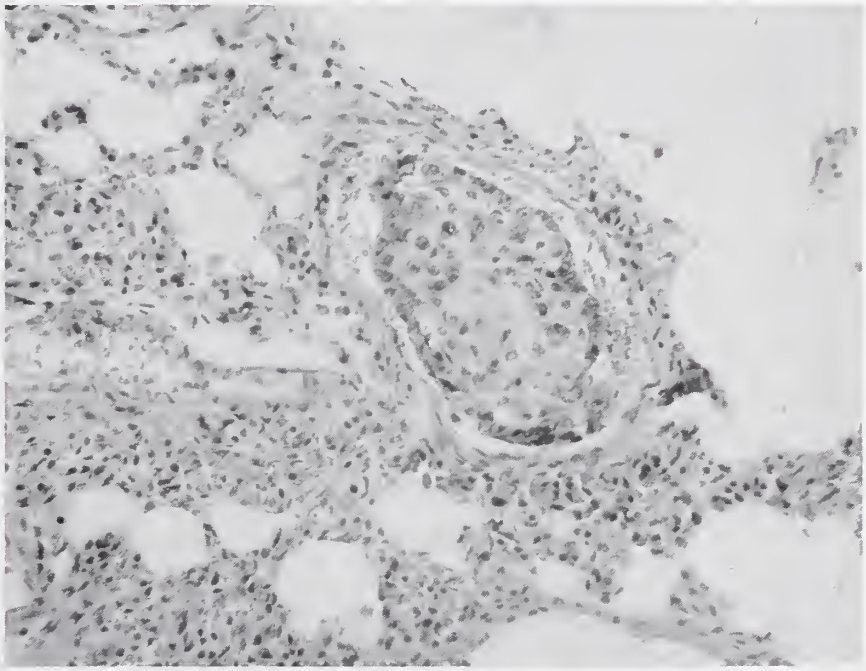


Fig. 4. Microscopic section of lung showing tumor emboli in a small pulmonary artery. H&E, X 200.

Large amounts of tumor were present in mediastinal and periaortic lymph nodes.

There were nodules in the lung parenchyma in addition to a very striking involvement by tumor of the small vessel of the lung (Fig. 4). Other metastases were found in the adrenal glands and in the marrow of the rib. The diaphragm was involved with nodules of tumor, but no other peritoneal metastases were seen. There were 5000 cc. of bloody ascitic fluid.

The spleen was enlarged to about twice normal size, and it contained a healing puncture wound. There was, however, no subcapsular hematoma, and I do not believe that the puncture wound was bleeding.

The terminal event in this patient, in addition to liver failure, was evidenced by a considerable amount of altered blood in the stomach and in the small and large intestines. I believe that most, if not all, of the gastrointestinal hemorrhage came from the duodenum, because the varices appeared quite small, and there were only two tiny disruptions of the esophageal mucosa. On the other hand, there were three peptic ulcers of the duodenum, one of which was quite deep and extended to the pancreas.

In summary, this patient had cirrhosis of the liver, probably on an alcoholic-nutritional basis, and developed a hepatoma with subsequent widespread metastases and bloody ascites.

Anatomical Diagnoses:

Cirrhosis of the liver, probably nutritional
Diffuse anaplastic hepatoma
Metastatic tumor involving the lungs, pleura, diaphragm, rib and adrenal glands and periaortic, porta hepatic and mediastinal lymph nodes
Serosanguinous ascites (5000 cc.)
Acute duodenal ulcers (3)
Altered blood in the stomach and small and large intestine

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Warnings—Watch for the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism, retinal thrombosis); if present or suspected discontinue the drug immediately.

British studies reported in April 1968[1,2] estimate there is a seven- to tenfold increase in mortality and morbidity due to thromboembolic diseases in women taking oral contraceptives. In these controlled retrospective studies, involving 36 reported deaths and 58 hospitalizations due to "idiopathic" thromboembolism, statistical evaluation indicated that the differences observed between users and non-users were highly significant. The conclusions reached in the studies are summarized in the table below:

Comparison of Mortality and Hospitalization Rates Due to Thromboembolic Disease in Users and Non-Users of Oral Contraceptives in Britain.

Category	Mortality Rates		Hospitalization Rates (Morbidity)
	Age 20-34	Age 35-44	Age 20-44
Users of Oral Contraceptives	1.5/100,000	3.9/100,000	47/100,000
Non-Users	0.2/100,000	0.5/100,000	5/100,000

No comparable studies are yet available in the United States. The British data, especially as they indicate the magnitude of the increased risk to the individual patient, cannot be applied directly to women in other countries in which the incidences of spontaneously occurring thromboembolic disease may differ.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or sudden onset of proptosis, diplopia or migraine. Withdraw medication if papilledema or retinal vascular lesions are found.

Since the safety of Ovulen in pregnancy has not been demonstrated, it is recommended that pregnancy be ruled out for any patient who has missed two consecutive periods before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the first missed period.

A small fraction of the hormone agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—Pretreatment physical examination should include special reference to the breasts and pelvic organs, and a Papanicolaou smear.

Endocrine and possibly liver function tests may be affected by Ovulen. Therefore, it is recommended that such tests if abnormal be repeated after the drug has been withdrawn for two months.

Pre-existing uterine fibromyomas may increase in size under the influence of progestogen-estrogen preparations.

Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation.

In breakthrough bleeding, and all irregular vaginal bleeding, consider nonfunctional causes. Adequate diagnostic measures are indicated in undiagnosed vaginal bleeding.

Carefully observe patients with a history of psychic depression and discontinue the drug if severe depression recurs.

Any possible influence of prolonged Ovulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study.

A decrease in glucose tolerance has occurred in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be observed carefully while receiving Ovulen.

Because of the effects of estrogens on epiphyseal closure Ovulen should be used judiciously in young patients in whom bone growth is not complete.

The age of the patient constitutes no absolute limiting factor, although Ovulen therapy may mask the onset of the climacteric.

The pathologist should be informed of Ovulen therapy when relevant specimens are submitted.

Adverse Reactions—A statistically significant association has been shown between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: cerebrovascular accidents, neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement, secretion), change in weight, changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, allergic rash, rise in blood pressure in susceptible individuals, mental depression.

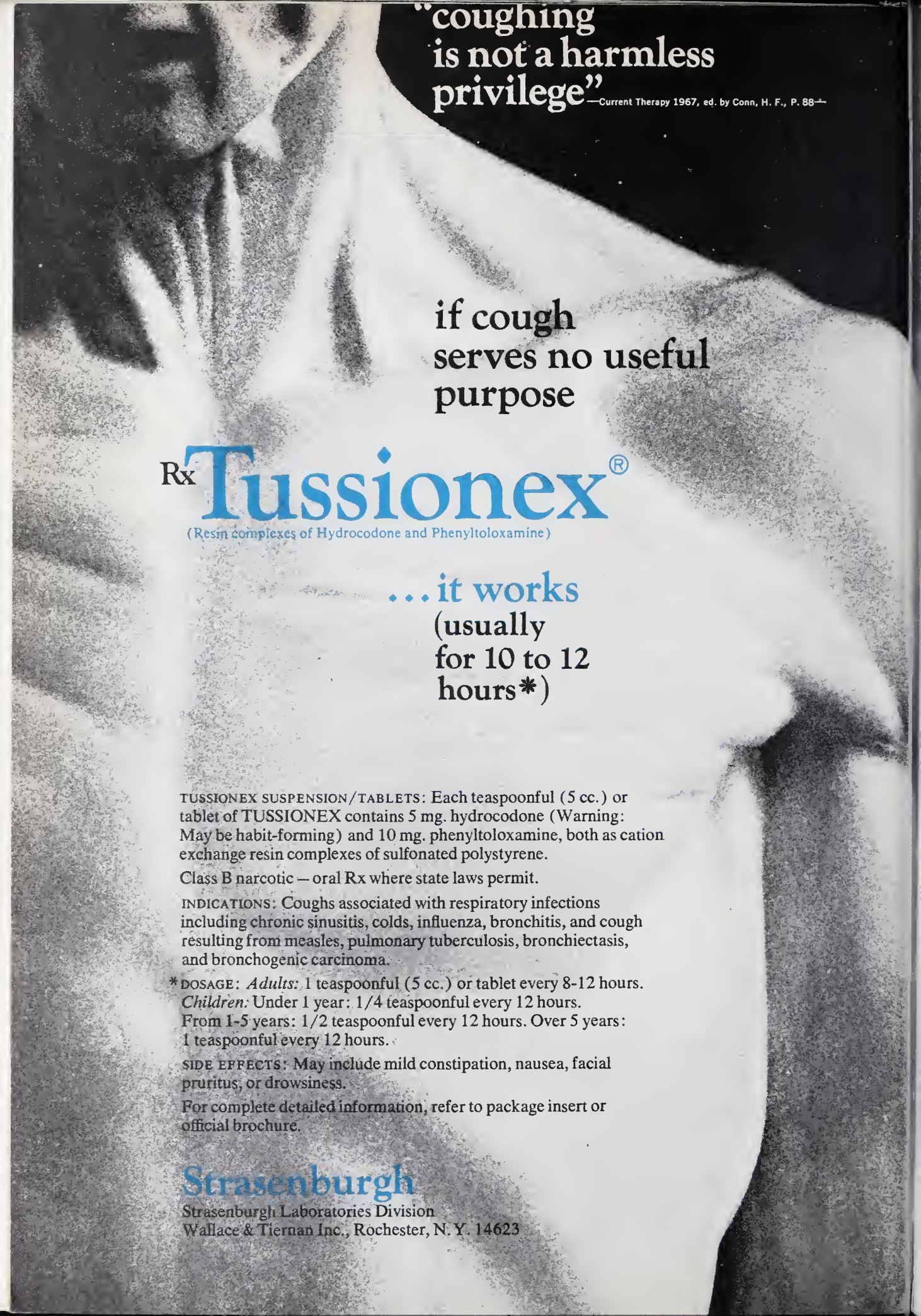
Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme and nodosum, hemorrhagic eruption, itching.

The following laboratory results may be altered by oral contraceptives: hepatic function: increased sulfobromophthalein and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test; pregnanediol determination.

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Chemotherapeutic Susceptibility of Common Bacterial Species

At the Medical College of Virginia it has been found that the laboratory recording of the percentage of a bacterial species susceptible to a particular antibiotic is a valuable guide to the attending physician when he is forced to choose empirically an antimicrobial agent. It has also been found that for a variety of reasons, such as susceptibility changes by the microorganisms or the marketing of new therapeutic agents, the pattern of bacterial susceptibility must be constantly reviewed. Primarily for these latter reasons we have recorded the activity of the commonly used antimicrobial drugs against the most commonly isolated organisms for the year 1967.

Table 1 lists the sensitivity pattern of 13 common bacterial species for 14 antimicrobial agents. The data were obtained from disc sensitivity studies using Baltimore Biological Laboratories' discs on blood agar plates which had been uniformly spread with the organisms. The bacterial species tested were all freshly isolated and in pure culture. The percentage of strains susceptible to the commonly used antimicrobial agents are similar to the results reported for 1966 and 1965. However, there is some variation that is of interest and on which some comment should be made.

TABLE 1

ROUTINE CULTURE SENSITIVITY—1967

ORGANISM	Total	Penicillin (10)	Erythromycin (2)	Methicillin (5)	Ampicillin (10)	Cephalothin (30)	Streptomycin (10)	Tetracycline (30)	Chloromycetin (30)	Kanamycin (30)	Neomycin (30)	Polymyxin (50)	Coly-Mycin (10)	Furadantin (100)	Nalidixic Acid (5)
Staphylococcus aureus	156	68	97	96	69	100	89	91	92	67	0	ND	ND	ND	ND
Staphylococcus epidermidis	157	80	91	95	88	99	78	57	96	24	ND	5	7	89	4
Streptococcus (enteric)	65	90	88	39	91	97	13	49	100	35	ND	13	14	86	19
Alpha Streptococcus (non-enteric)	25	92	90	35	96	92	35	60	90	ND	ND	4	4	ND	ND
Beta Streptococcus (group A)	51	100	100	100	98	100	48	92	98	ND	ND	ND	ND	ND	ND
Beta Streptococcus (not group A —not enteric)	25	96	95	85	96	92	9	92	100	ND	ND	ND	ND	ND	ND
Pseudomonas	160	0	0	0	2	3	61	35	42	33	92	90	95	4	9
Proteus morganii	34	53	0	0	80	74	93	8	85	56	88	3	6	37	53
Proteus mirabilis	114	79	0	0	85	83	96	6	90	66	90	2	3	19	53
Proteus rettgeri	21	43	0	0	43	48	80	0	85	42	90	0	0	6	19
Escherichia	271	0	0	0	40	73	51	59	74	64	92	97	90	87	77
Aerobacter	168	0	0	0	16	26	52	39	65	35	90	41	51	47	63
Klebsiella group	108	0	0	0	5	67	49	52	62	28	80	95	93	64	50

ND = Not done
Sensitivities expressed in percentage of sensitive organisms.
Values in ( ) represent concentration of drug used in disc sensitivity test.

In regard to *Staphylococcus aureus,* this species shows a higher percentage each year of strains sensitive to the common antibiotics. In 1965, 70% of the strains tested were sensitive to tetracycline while in 1967, 91% of the tested strains were sensitive to this drug. This trend has also occurred with erythromycin and with streptomycin.

The Beta hemolytic Streptococcus of Lancefield's group A was included in the table in order to help answer the question of which antibiotic besides penicillin is effective against the organism. As seen in the table, erythromycin and cephalothin show the same *in vitro* activity as penicillin. With the Beta Streptococcus (not group A) penicillin resistance occurs with some degree of frequency. This point demonstrates the practicality of separating group A Streptococcus from the other Lancefield's groups. The enteric Streptococcus is the most resistant member of the genus, but the majority of the strains are susceptible to penicillin and all of those tested demonstrated *in vitro* sensitivity to chloramphenicol.

Among the gram-negative bacilli, the Aerobacter and Klebsiella groups have shown an increase in the frequency of isolation from clinical material and also showed a marked degree of resistance to antimicrobial agents. The majority of the Aerobacter strains are resistant to cephalothin, while the majority of Klebsiella are sensitive to this agent. The same pattern is also observed with polymyxin. When the antimicrobial susceptibility patterns of the Klebsiella-Aerobacter group are compared to the susceptibility pattern of Pseudomonas, it is seen that the former group is in general as resistant to the drugs as the latter. It is important to point out this fact since many feel that Pseudomonas organisms are the most resistant of the commonly encountered pathogenic bacteria but do not appreciate the antimicrobial resistance possessed by the Klebsiella-Aerobacter group.

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Division of Clinical Pathology
Medical College of Virginia
Health Sciences Division of
Virginia Commonwealth University
Richmond, Virginia

A Man's inner nature is revealed by what he praises—a man is self-judged by what he says to others. Thus a man is judged by his standards, by what he considers the best. And you can't find a more crucial test. It reveals the soul.

—*Hugh Black*

Mental Health . . . .

HIRAM W. DAVIS, M.D.

Progress in Mental Hygiene Clinics

The following remarks are extracted from the annual progress report made by the State Department of Mental Hygiene and Hospitals to Region III, U. S. Department of Health Education and Welfare for the fiscal year, 1968.

The fiscal year was an active one in terms of expansion of the Mental Hygiene Clinic System. On 1 July 1967, a one-day-a-week clinic serving Rockbridge County and the cities of Buena Vista and Lexington was added to the System. At about the same time, Prince William County established a wholely local operation of two and one-half days located at Manassas. The Department was unable to participate in this operation until 1 July 1968, after State funds were made available by the General Assembly. During the year, consultation assistance was afforded by the Department to Henrico County (five-day operation), Fauquier County (two and one half-day operation), Smyth County (one-day operation) in the development of plans for new clinics all of which were authorized by the General Assembly through appropriation of funds. In addition, the Danville Mental Hygiene Clinic was authorized to expand operations into Halifax and Pittsylvania Counties and the City of South Boston, while the Lower Peninsula Mental Hygiene Clinic was authorized to expand its staff to provide effective support for Virginia's first Comprehensive Community Mental Health Center in Newport News. All of these developments have been implemented as of 1 October 1968, although some shortages of required personnel exist in some of the new clinics at this time.

The primary objective of the Mental Hygiene Clinic Program has been to provide, at the local level, readily accessible services for early detection, diagnosis and outpatient treatment of the mentally ill and emotionally disturbed. Included is the provision of follow-up services for aftercare of patients referred by the State Hospitals and of interagency consultation and advice in overall mental health matters in given communities. A secondary objective has been to provide a catalyst for community action toward providing a wider range of psychiatric treatment programs at the local level.

Determination of the effectiveness of the program in achieving these goals is extremely difficult with the tools presently at hand. One is faced with the problem of measuring the relative quality of service afforded by the individual clinics, the emphasis on different treatment methods by individual clinics and on particular clientele. A major factor is the mobility of clinic personnel within the system over a given period. Temporary shortages in certain professions may materially affect the performance of a particular clinic in a manner not reflected in numerical statistics.

Therefore, we are forced to utilize activity measures blended with observations made by clinic directors, staff personnel and the degree of support offered by communities to clinics despite their apparent shortcomings.

Increases annually in categories of local sources of referral indicate a growing awareness and usage of clinics by other agencies in the community and by families. This trend is encouraging, but it has been observed that the full potential of the clinics

DAVIS, HIRAM W., M.D., *Commissioner, Department of Mental Hygiene and Hospitals.*

in referrals has not been reached due to limitations of staff and facilities. Instances are known where agencies have not made referrals because of a known backlog of patients and an excessive waiting period for treatment. This points up the particular problem of obtaining adequate staff to serve the needs of the community. A concomitant contribution is the fact that many areas can afford only part-time service (in some instances only one day of full operation) which is inadequate for the potential caseload. It is encouraging to note that in most areas where this obtains the citizens are aggressively seeking the means, whether personnel or financial, to expand these services. In most instances, the real limiting factor is personnel.

An area of evaluation which might be considered a measure of effectiveness of the clinic system is the relationship of the build-up of the system vis-a-vis the State Hospital population. An examination of statistics in Virginia's hospitals indicates that over the past decade, despite a basic 2% per year increase in population, the number of hospital resident patients has remained relatively constant, varying between 11,067 in 1958 to a peak of 11,622 in 1961, then declining to 11,205 in 1968. (Figures are for June 30 of each year and exclude institutions specifically for the mentally retarded.) Thus, the percentage increase from 1958 to 1968 in hospital residents was less than 2% as compared to an overall total state population rise of slightly over 20%. It must be noted, however, that during the same period admissions, including readmissions, increased from 4,627 in 1958 to 7,175 in 1968 or 61.5%.

It is undoubtedly true that the primary factor involved in the stabilization of hospital residential population must be attributed to improvement in hospital treatment methods and service facilities at the institutions. Because of the nature of the information collected from the clinics, lack of adequate tabulating and retrieval equipment, and other factors involved, it can only be speculated as to the part clinics have played in this stabilization. A recent article by Dr. Elaine Cummings, Director, Mental Health Research Unit, New York Department of Mental Hygiene contained in *Canada's Mental Health Supplement No. 56* (January-April, 1968) points up in an excellent manner the difficulties involved in assessing the part clinics and other facilities play in reducing mental illness. She mentions many of the arguments pro and con as to whether outpatient and child guidance clinics actually operate to stem the problem of the "hard core" psychotics by early diagnosis and treatment, or merely handle those cases which are the "least ill" and look upon the "chronically ill" as poor referrals. In conclusion, she quotes from G. M. Carstairs to the effect that therapists are inspired by convictions based on faith rather than certainty. A similar statement could be made in respect to Virginia's mental hygiene clinics. However, the fact that the system has endured and expanded over the years, has been supported by the local citizens and the psychiatric community, and has continued to receive the confidence and usage of primary referral agencies would appear to vindicate the system as one needed in the community whether for crisis situations, family-like problems, diagnostic centers or whatever purpose. It is axiomatic that outpatient facilities alone cannot meet the full needs of the community with regard to mental health. They must be aligned with other treatment-services.

Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Current Concepts in Immunization

Due to the recent flu epidemic it now seems to be an appropriate time to re-emphasize the importance of immunization in overall medical care. The low incidence of certain communicable diseases has been achieved with intense immunization programs; only through the continuance of such programs can we hope to maintain our hard earned gains.

It is clear that we are in a transitional state with relation to certain diseases. Polio is perhaps the best example. Laboratory surveys throughout the country have shown that wild-type polio virus isolates are now infrequent. This means that protection against polio through exposure in early childhood, once the rule, is now a rare exception. In other words, immunization is the only protection available, and it is clear that immunization is by no means universal. Here in Virginia, large "pockets" of susceptibles (to polio as well as other diseases) remain. It is only through persistent effort that we can hope to avert the potential disaster attendant upon the introduction of an infectious agent into a susceptible community. It is for this reason that some of the newer concepts in immunization practices are presented here.

DPT

Beyond the age of six, pertussis vaccine need not be included in the immunization schedule, since the incidence of illness is low and the dangers of adverse reactions to the vaccine are increased. The so-called "adult" DT preparation is the recommended vaccine. "Pediatric" DT, which contains a larger amount of diphtheria antigen, does not have greater antigenicity, but does have an increased incidence of adverse reactions.

Immunity against diphtheria, as well as against tetanus, is very long lasting, and the current recommendation is that routine boosters of DT be given at intervals of ten years. It is probably safe to say that routine boosters for adults are a rarity in the general practice of medicine, and a significant degree of diphtheria susceptibility exists in our adult population.

The situation with regard to tetanus is a more confusing one. Like diphtheria, there is a segment of the population that has never been adequately immunized or followed up, and this accounts for the three hundred or so cases which occur yearly in the United States. On the other hand, there is a segment of the population that is over-immunized. In urban accident-prone populations, tetanus "boosters" are given quite frequently, often without reason. The current recommendation is that a tetanus toxoid booster need not be administered in case of injury if a primary course of immunization has been accomplished, and *there has been a booster within a year.* But it is stressed that this is an extremely conservative ruling. Also, in view of diphtheria susceptibility, all tetanus boosters should be "adult" DT boosters.

The use of tetanus immune globulin, in preference to bovine or equine products, is now recommended in clinical situations where the possibility of tetanus exists. One vial, 250 units, is the standard dose, and *it should always be accompanied by the first in the primary immunization series.* For patients who present with the disease itself, the current Public Health recommendation (still unofficial, however) is approximately

5,000 units intramuscularly. Finally, it must once again be noted that the survivor of clinical tetanus is not immune to the disease, and should undergo a course of primary immunization.

Polio

After reaching an all-time low of 61 reported cases of poliomyelitis in 1965, the United States suffered a reversal. The previously mentioned lack of exposure to wild-type virus, coupled with the failure to achieve universal immunization, produced epidemic situations in various areas, and an increasing number of reported cases. Virginia, fortunately, has as yet been spared, but that same potential exists here.

It has been clearly shown that the Sabin oral polio vaccine more nearly approximates naturally occurring enterovirus infection, and it is a more effective agent than the Salk vaccine. The latter requires a booster every two to three years, whereas no booster is required after an adequate course of Sabin vaccine. It is therefore recommended that only oral polio vaccine be used. This is especially important for adults who have either never been immunized, or have received only the Salk vaccine.

It should be noted, however, that pregnancy, by itself, is not an indication for immunization, and the practice of administering Salk vaccine to pregnant women is no longer justified. It is probably best to immunize susceptible pregnant woman with Sabin vaccine after the termination of pregnancy. Should the occasion arise, however, (such as epidemic spread or travel to endemic areas) the use of oral polio vaccine in pregnant women is not contraindicated. At the present time, the only use for Salk vaccine appears to be in immunologically incompetent individuals, for whom exposure to live virus might be fatal.

Smallpox

At the present time, the United States is in a perplexing situation with regard to smallpox. The incidence of adverse reactions to immunization exceeds the incidence of the disease itself. But because of the prevalence of the disease elsewhere in the world, and the potential for epidemic spread here, it is not felt that we should "let down our guard". Primary vaccination is still recommended at age 15-18 months with routine revaccination upon entrance to school and then every ten years. Need for primary inoculation at an early age should be stressed because of increased incidence of reactions in later life.

Complacency is perhaps greater with regard to smallpox than to any other of the serious communicable illnesses. In a way, this is understandable, since the last reported case of smallpox in the United States occurred in 1949. But the vigilance and effort that have been devoted to preserving this record is extraordinary. Perhaps through efforts in West Africa, India and elsewhere, when smallpox is indeed eradicated, vaccination requirements may be relaxed. But that state of grace is yet to be achieved.

Measles

The Schwarz strain of live attenuated measles virus has now been amply demonstrated to be an effective immunizing agent. Used alone, without gamma globulin, it produces reactions such as fever and rash in fewer than five percent of immunized individuals. (The Edmonston strain, also distributed by the State Health Department, likewise produces a low reaction rate when given with gamma globulin.) Measles can be prevented if the vaccine is administered on the day of exposure but will probably not be protective thereafter. Measles immune globulin should be used to attenuate the illness, if the patient was exposed greater than 24 hours prior to seeking medical care.

The local health departments, in conjunction with the Virginia Immunization Activities branch of the State Health Department, have successfully conducted mass measles clinics in approximately fifty areas

in the State, accounting for over 55,000 measles vaccinations since April 1967. Private physicians, through their constant use of measles vaccines since 1963, have immunized another significant segment of the susceptible population. And indeed, the number of reported cases of measles has declined significantly in the past year. It must be stressed, however, that there is a large number of susceptibles remaining, as evidenced by the fact that *epidemic measles is still occurring in Virginia,* particularly in some of the larger metropolitan areas.

Physicians are urged to report all cases of measles to local health departments, since a single case is often just the top of an epidemic iceberg. Case investigation, followed by judicious epidemic control, coupled with an ongoing program of immunization, may eventually bring about the disappearance of this once commonplace childhood illness.

Newer Vaccines

The mumps vaccine, first marketed in 1967, is now being recommended on a broader scale. It is felt, in view of its safety and efficacy, that it should be administered to all children (except when specific medical contraindications exist). Subclinical infection is common in mumps, and most adults have probably been exposed, but the vaccine is none the less recommended for postpubertal males who have not had clinical disease. It is noteworthy, however, that although mumps orchitis in adult males is not a rarity, permanent sterility following such an illness is.

A vaccine against rubella will probably appear on the market within a very short time. Currently it is expected to be released by May of 1969. Because the most serious effects of this disease occur during the first trimester of pregnancy, it seems likely that women of the childbearing age will most avidly seek the vaccine. But it should be stressed that rubella is primarily a disease of childhood, and elimination of the disease will depend upon adequate immunization of the younger population. Women of childbearing age usually contract the disease secondarily, as household contacts, and only through immunization of the primary reservoir can adult women be protected.

Finally, a bright new possibility is the combination of live virus vaccines. Early evidence indicates that the mixture of rubeola, rubella, and mumps vaccines can produce adequate antigenic response to each. The saving in time, materials, and administrative work from such combinations is obvious.

At the present time, the Bureau of Epidemiology in the State Health Department is compiling a complete set of the "Recommendations of the Public Health Service Advisory Committee on Immunization Practices" to be distributed to public health officials and practicing physicians. The booklet will be in looseleaf form, and as new recommendations are issued, they will be distributed accordingly, thereby giving the physicians of Virginia ready access to the most up-to-date information available on immunization.

Monthly Report of Bureau of Communicable Disease Control

	January 1969	January 1968		January 1969	January 1968
Brucellosis	2	0	Streptococcal Sore Throat or Scarlet Fever	1022	1567
Diphtheria	0	0	Tularemia	0	0
Hepatitis	20	44	Typhoid	0	0
Meningitis (Aseptic)	1	0	Rabies (in animals)	47	17
Meningococcal Infections	7	6	Venereal Disease		
Poliomyelitis	0	0	Syphilis	87	116
Rocky Mt. Spotted Fever	0	1	Gonorrhea	864	735
Rubella	8	20	Other	1	0
Rubeola	30	19			

Woman's Auxiliary....

The Ides of March Are Upon Us

. . . Shakespeare found them ominous days of evil; but the Mid-Winter Board Meeting will utilize it as a time to give *brief* oral reports on programs and progress by county presidents and state chairmen. The Board will convene March 14th in Richmond promptly at 10:00 A.M. Members remaining overnight who intend to stay at the John Marshall Hotel are invited to request reservations in the block set aside for the Women's Auxiliary to the Richmond Academy of Medicine. The Richmond Auxiliary will receive credit toward their Seventh Annual Richmond Antique Show from these reservations, which is being held the same week.

Recruit, Recall and Review

. . . are the three r's for auxiliary health careers action according to Mrs. Wendell Roller, national health careers chairman, "Recruit hands that help, Recall inactive people to their fields of endeavor, Review by taking a good look at the educational systems in our communities." It isn't necessary to delve deeply before locating a vast assortment of projects, but the real key is to ponder local problems and prepare health programs most suited to your auxiliary's capacity and available only for the asking through Mrs. Carl Stark, Virginia Health careers chairman, 695 N. Sixth Street, Wytheville, Virginia 24382.

Recruitment of young people for health careers has for many years been given top priority by the auxiliary. Health Career Days, Health Fairs, sponsorship of Future Nurse Clubs and generous scholarships are tried and true projects which have proven as rewarding for the donating auxiliary as for the recipients.

Many youngsters lean toward health careers and require even minimal knowledge and encouragement to pursue a career in the health fields. The Woman's Auxiliary to the American Medical Association has recommended a *Health Careers Workshop for Guidance Counselors* to improve the effectiveness of the individual counseling. This should be followed up with procedures to keep information and materials up to date.

The contact that a student would have in speaking personally to a physician, nurse, or other persons in the health careers of their specific interest can perhaps be more beneficial than any other means. Several physicians have volunteered their time to show interest in and give advice to students interested in medicine. Medical students from the University of Virginia formed the Mulhulland Club to counsel and encourage high school students who may want to follow a career in medicine.

One way to start a Health Careers Club might be to arrange for a showing of "Horizon's Unlimited". The Medical Society of Virginia purchased the film and it is available, providing it is requested well in advance, from the Virginia Council of Health and Medical Care, 100 E. Franklin St., Richmond, Virginia 23219. Many praises have been sung about this film and it is really worthwhile viewing.

That Bouncing Baby

. . . born last year by the name of "WA-SAMA" has blossomed into a mature young lady capably attending to and anticipating the needs of her many members—175 to be exact. The Sally Tompkins Chapter of the Woman's Auxiliary to the Student American Medical Association (WA-SAMA) was the largest chapter in the nation February, 1968, a scant six months after its formation. The officers for this year are: president—Mrs. G. Edward Kappler; first vice-president—Mrs. Julien Meyer; second vice-president—Mrs. Marvin Tenenbaum; corresponding secretary—Mrs. Samuel Blakesly; recording secretary—Mrs. Paul Gustman; treasurer—Mrs. William Dunlap; historian—Mrs. Edward Lilly. Has your auxiliary sent in their $5.00 for a sustaining membership in WA-SAMA? This check can be sent to Mrs. Randolph Hoge who wears dual hats as State chairman for WA-SAMA and liaison from the Richmond Auxiliary.

October: The fashion show served as their first meeting given by a local women's store with modelling by none other than the WA-SAMA's themselves.

November: The lovely home of Dr. and Mrs. Randolph Hoge provided an atmosphere of warmth and friendliness to welcome the members to a tea.

December: WA-SAMA intended to adopt one family through the Welfare Department and present items of food and clothing. In typical WA-SAMA fashion it was so successful that food and clothing could be distributed to a second family.

January: "Organ Transplants" were discussed by a physician, lawyer and a rabbi.

These busy young women are also making layettes for needy mothers who have no provisions for baby clothing, before leaving the hospital.

Last fall a "Calendar of Events" from the Health and Science Division of the Virginia Commonwealth University was sent to the alumni asking for a $1.00 (or more) donation. This fund raising event was to provide the monies for a swimming pool to be incorporated in an already planned student gymnasium at the Medical College. The pool would have been included if the necessary funds had been available. The response has been very disappointing. Perhaps a gentle reminder to your alumni husband would send a very much appreciated donation to this really deserving group.

Editorial....

A Century Minus Five

THE VIRGINIA MEDICAL MONTHLY has just observed its 95th birthday. The day was spent quietly—in fact it probably would have been overlooked if a Massachusetts journal had not inquired about the history of The Medical Society of Virginia and its publication. This in turn caused us to reminisce a little.

If any institution deserves to be termed "the lengthening shadow of one man" it is the Virginia Medical Monthly, and to a somewhat lesser degree, The Medical Society of Virginia itself. With these thoughts in mind we shall start at the beginning. Dr. Landon B. Edwards was born in Prince Edward County in 1845. He attended the Lynchburg Military Academy, Randolph Macon College and the University of Virginia. At the age of 18 he entered the Confederate Army as a private and survived the final two years of the War. He then traveled north and received his medical degree from the University of the City of New York in 1867. Sectionalism still ran strong two years after Appomattox. Dr. Edwards and a fellow veteran from North Carolina were the only students from the South. Each applauded the other as his degree was received—otherwise the silence would have been oppressive.

After an internship in New York Dr. Edwards returned to Virginia in 1868 and three years later he became one of the founders of the reorganized Medical Society of Virginia. He was appointed secretary to the society and continued in this office until his death in 1910. His duties were essentially those of Mr. Robert I. Howard, our indefatigable Executive Secretary-Treasurer, who has served since 1950. Dr. Edwards did have one occupational hazard which his successors have not had. Twice during its earlier existence the society had gone into hibernation for periods of 12 and 15 years. This happily did not occur under the guidance and continuity provided by Dr. Edwards. Although to all intents and purposes, the Virginia Medical Monthly served as the official organ of the state society, it was owned by Dr. Edwards. It continued in the family until 1919 when it was sold to The Medical Society of Virginia for $1000.00 by Dr. Charles M. Edwards, who became editor after his father's death.

Dr. Alexander G. Brown, Jr., an internist, then served as editor until 1933. Dr. Wyndham B. Blanton, an internist and allergist, took over the reins in 1934 and despite his practice, teaching and diversified interests and writings, continued his erudite editorship until 1942. He was followed by Dr. M. Pierce Rucker, an obstetrician, whose special interests encompassed medical history and botany. He so combined these avocations that almost every month he unearthed and brought to light some flower named after a forgotten physician who had originally discovered or clas-

sified the plant. Dr. Rucker died in 1953 and Dr. Lewis H. Bosher, Jr., became editor and continued in this capacity, despite his many other duties, until January 1955 when the writer was designated and an editorial board was appointed. The writer has been privileged to know every editor of the journal since its inception, although the association of the Doctors Edwards with the present editor were confined to a physician-patient relationship.

The history of the Virginia Medical Monthly would be incomplete without the story of Miss Agnes V. Edwards, daughter of Dr. Landon Edwards. Miss Edwards assisted her father and later her brother Charles until the journal was sold in 1919. She then became Business Manager and continued as such until her death in 1954. Rarely have two generations of one family played so major a role in a publication throughout a period of 80 years. A sense of continuity has continued, for Miss E. Spencer Watkins, who assisted Miss Edwards in her latter years, became Managing Editor in 1954 and continues in this capacity.

The queries asked by the editor of the Massachusetts journal raised some questions in our mind as to just what the policies of The Medical Society of Virginia are, for the Virginia Medical Monthly does not wish to stray too far from the organization it seeks to represent. The physicians of Virginia have been a fairly homogenous and conservative group throughout the years, despite, or perhaps because of, a healthy influx of physicians from afar who have found life congenial in the Commonwealth. Physicians in general are conservative and possibly we are a little further to starboard than most. The Medical Society of Virginia budget has never exceeded the income and the pay-as-you-go philosophy of the late Senator Harry F. Byrd has been a guiding principle of the Society. The recently constructed headquarters building required no borrowing. Some of our critics have termed this mode of life an example of Bourbonism and possibly an anachronism, but the indictment, if true, has not proved too frightening or disturbing.

The state society has changed vastly during the past two decades and the state medical journal has changed correspondingly. A few years ago the Virginia Medical Monthly served chiefly as a transmitter of society activities, a medium for the publication of scientific articles of general use to the readers and a means of finding out if a former classmate had moved his office, become a specialist, retired, or unhappily gone to his reward.

Now it is entirely different. We have to read the journal each month to learn the latest unpleasant scheme the federal government has in store for us. A rash of new journals devoted to various sub-specialties has appeared with further delimiting of the scientific scope of the Virginia Medical Monthly. On the other hand there have been some worthwhile additions in the way of special features and the CPC that appear each month. Our guest editorials run the gamut of medical activities and the many related disciplines. Our regular editorials, prepared by members

of the publication committee, deal more and more with political matters as the politicians deal more and more with us. Political labels play no part in our affection; in fact we do not mention them. But we are all for the good guy who wears the white hat and correspondingly against the villain with the black hat who wants to down-grade medicine.

There has been one trait that has set the VMM apart from many other state journals. We have dealt more with ancient medical matters, due in part to the vast amount of history we have accumulated during the past 350 years and perhaps aided by the ready reference we have in Dr. Blanton's definitive three volume history of medicine in Virginia from 1607 to 1900. Sometimes our historical articles may appear a little removed from medicine but a careful search will usually reveal a silver cord that ties them all together. In the occasional one that lacks even this we must remember that physicians are supposed to be well rounded and educated men and that the teaching of history is becoming a lost art in many of our secondary schools and colleges.

This brings us to the last item—the name of our publication. One by one our fellow state magazines have adopted the more aseptic and possibly sterile title of The Medical Journal of So and So State. We have discussed making the change—perhaps we will sometime—but the Virginia Medical Monthly has worn well during the past 95 years. Possibly some day our cover will blossom out with a new look and title but let's not be too precipitous about it.

H. J. W.

News . . . .

Calendar of Events

Electroencephalography—A Course in Current Problems—Sponsored by the American Electroencephalographic Society and Baylor University College of Medicine—Houston, Texas—March 13-15, 1969.

Spring Series of Thursday Afternoon Lectures—Sponsored by the University of Virginia, School of Medicine—March 13-May 8, 1969.

National Conference on Rural Health—Sponsored by American Medical Association—Philadelphia Marriott Hotel, Philadelphia, Pennsylvania—March 21-22, 1969.

Annual Post Graduate Day—Roanoke Memorial Hospital—Roanoke—March 27-28, 1969.

National Congress on Socio-Economics of Health Care—Sponsored by American Medical Association—The Palmer House—Chicago—March 28-29, 1969.

Annual Clinical Conference—Sponsored by Louise Obici Memorial Hospital—Suffolk—April 2, 1969.

Swineford Allergy Conference—Sponsored by the University of Virginia School of Medicine—Charlottesville—April 4, 1969.

Annual Joint Cardiac Symposium—Sponsored by the Heart Association of Northern Virginia and Washington Heart Association—Marriott Twin Bridges Motor Hotel—Arlington—April 9, 1969.

Annual Meeting—Medical and Chirurgical Faculty of Maryland—The Alcazar—Baltimore, Maryland—April 9-11, 1969.

Psychological Aspects of Stress—Sponsored by University of Virginia School of Medicine—Charlottesville—April 23-24, 1969.

Annual Clinical Meeting—American College of Obstetricians and Gynecologists Americana Hotel—Bal Harbour, Florida,—April 28-May 1, 1969.

Annual Scientific Assembly—Virginia Academy of General Practice—Williamsburg—April 30-May 4, 1969.

Arthritis Seminar—Sponsored by Roanoke Chapter of the Arthritis Foundation of the University of Virginia—Hotel Roanoke—Roanoke—May 9-10, 1969.

Infectious Disease and Hospital Infection Control—Sponsored by University of Virginia School of Medicine—Charlottesville—May 16-17, 1969.

Annual Convention—American Medical Association—New York—July 13-17, 1969.

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following doctors were admitted into membership in The Medical Society of Virginia during the month of January:

Frank S. Blanton, Jr., M.D., Bristol
Edwin Allen Bondareff, M.D., Alexandria
Charles Paul Boyan, M.D., Richmond
Elizabeth Randolph Carmichael, M.D., Belle Haven
Frederick David Doe, M.D., Stuart
Philip Magwood Gleason, M.D., Nassawadox
Thomas O. Hodges, M.D., Hampton
Harry Franklin Hoke, Jr., M.D., Richmond
Ernest Harriman Joy, M.D., Virginia Beach
Howard Arthur Montgomery, M.D., Charlottesville
Fortune Oden'hal, Jr., M.D., Manassas
Charles Ernest Rathke, M.D., Manassas
Jerome Stein, M.D., Alexandria
William Nicholas Toomy, M.D., Waynesboro
Sanford Warshauer, M.D., Alexandria
William Thomas Wilkins, M.D., Richmond
Edward Croft Wilson, M.D., Charlottesville

Arlington County Medical Society.

Dr. Robert H. Gruver has been installed as president of this Society, succeeding Dr. Robert E. Byrne. Dr. Arthur I. Sims is president-elect; Dr. Timothy L. Kelly, Jr., vice-president; Dr. Leonard Weyl, secretary; Dr. John C. Bucur, treasurer; and Dr. Byrne, member-at-large to the executive committee.

Fairfax County Medical Society.

Dr. Thomas M. Wright assumed the presidency of this Society on January 1st. He succeeded Dr. C. Barrie Cook. President-elect is Dr. Donald S. Thorn; vice-president, Dr. Rolf A. Koehler; secretary, Dr. Alan Mackintosh; treasurer, Dr. William L. Bekenstein; and executive committee-at-large, Drs. Cook, Alberto J. Garcia and Thomas M. Fulcher.

Albemarle County Medical Society.

Dr. William B. Pollard, Bellair, has been installed as president of this Society, with Dr. James C. Respess as vice-president and president-elect and Dr. Charles Gleason as secretary-treasurer.

Southern Medical Association.

The following Virginia doctors have been named section officers of the Southern Medical Association:

Dr. M. Pinson Neal, Jr., Richmond, chairman of the section on radiology.

Dr. John T. Farrar, Richmond, secretary of the section on gastroenterology.

Dr. John Paul Jones, Richmond, chairman of the section on pediatrics.

Virginia Board of Medical Examiners.

The Virginia State Board of Medical Examiners held its semiannual meeting on December 7th, 8th and 9th, in Richmond, followed by the usual four days of examinations for licensure. All of the Board business was routine except for one item. The Board elected Dr. George A. Carroll, Suffolk, as Assistant Secretary-Treasurer.

This was the first meeting attended by the newly appointed members: Dr. Paul Hogg, representing the First District and Dr. Ralph M. Stokes, Jr., D. O., of Portsmouth, the osteopathic member of the Board.

The Endorsement-Reciprocity Committee of the Board recommended this type of licensure for 195 Doctors of Medicine, one Doctor of Osteopathy, two Podiatrists and twelve Physical Therapists.

The next four days of examinations resulted in the licensure of 61 Doctors of Medicine and two Doctors of Chiropractic.

In addition to this, the entire junior class
ginia took Part I of our examinations.
of medicine at the Medical College of Vir-

The next meeting of the Virginia Board of Medical Examiners will take place at the John Marshall Hotel in Richmond on May 31, 1969.

Dr. Gervas Taylor Honored.

The Norfolk Sports Club has named Dr. Gervas Taylor as man-of-the-year in sports. He has been team physician for more than ten years for a local high school and the Norfolk Neptunes and has secured physicians for other high school teams. He has served numerous times as the attending physician at various district, regional and state high school wrestling tournaments as well as the Mason-Dixon Conference tourney when held in Norfolk. Dr. Taylor has for years donated his time to examine Old Dominion athletes for their annual physicals and he has been guest lecturer in the school classes in prevention and care of athletic injuries.

Dr. Bradford S. Bennett,

Recently of Winchester, announces the opening of his office at 68 Sudley Road, Manassas, for continuing the practice of orthopaedic surgery.

Emily Gardner Lectureship.

The newly established Emily Gardner Lectureship honoring the late Dr. Gardner, a prominent Richmond pediatrician and the first woman to head the Richmond Board of Health, was held at the Medical College of Virginia on February 6th. Guest lecturer was Dr. Doris A. Howell, professor and chairman of the Department of Pediatrics at Woman's Medical College of Pennsylvania. Dr. Gardner, who died in 1956, received her M.D. from Woman's Medical College.

Dr. Alvin E. Conner,

Manassas, has been elected president of the Manassas Association for Retarded Children and The Didlake School.

The Pratt Clinic,

Fredericksburg, is sponsoring a meeting of physicians from the Southeastern region of the United States on April 5th at the Fredericksburg Sheraton Motor Inn. This is the first time effort in this part of the country and is on behalf of the American Association of Medical Clinics. Speakers will include Dr. Charles M. Caravati, Department of Continuing Education of the Medical College of Virginia; Mr. Edgar J. Fisher, Jr., Virginia Council on Health and Medical Care; Mr. A. L. Touche, president of Professional Office Buildings, Madison, Wisconsin. Dinner speaker will be Mr. Charles McDowell, Richmond Times-Dispatch.

For further information, contact T. Stacy Lloyd, Jr., M.D., Chairman, The Pratt Clinic, 1701 Fall Hill Avenue, Fredericksburg, Virginia 22401.

Medical Seminar.

The first annual medical seminar presented by the Continuing Education Department of the Medical College of Virginia in cooperation with the Education Committee of the Virginia Academy of General Practice, will be held in the George Ben Johnston Auditorium of the College, March 27-29.

On the first day, the program will be on Obstetrics and Gynecology: Endocrine by Dr. Leo Dunn and Staff; Pediatric Seminar by Dr. William E. Laupus and Staff; Electrolytes and Blood Gasses by Dr. W. T. Thompson; Anti-Infectious Agents by Dr. John P. Utz and Staff; and The Anemias by Dr. G. Watson James and Staff. On March 28th, there will be a Radiology Seminar by Dr. Robert Armstrong; G. I. Seminar by Drs. John Farrar, Charles Caravati and Alvin Zfass; Diabetes by Dr. H. St. George Tucker and Staff; Cardio-vascular Emergencies by Dr. Reno Porter and Staff; and Neurology by Dr. Cary Suter and Staff. On the 29th, the subjects will be Laboratory Aids, Multiple Screening, Office Laboratory

Tests by Dr. George Vennart and Staff; Surgical Grand Rounds—Trauma; and Pulmonary Function by Dr. James Baker and Dr. Walter O'Donohue.

Annual Clinical Conference.

The Annual Clinical Conference of the Louise Obici Memorial Hospital, Suffolk, will be held on April 2nd. The topic will be separated into two phases—in the morning the program will concern itself with recent discoveries in the causes and treatment of infertility. The speakers will be Dr. C. Donald Christian, Duke University, and Dr. John A. Board, Medical College of Virginia. The afternoon program will be on endometrial and ovarian carcinoma and the speakers will be Dr. William Anderson, Iowa, and Dr. Myroslaw M. Hreshchyshyn, Buffalo. Dr. Leo J. Dunn, Medical College of Virginia, will be the moderator for the day.

The luncheon speaker will be the Honorable Mills E. Godwin, Jr., Governor of Virginia.

The annual award for outstanding contributions to medicine will be presented to Dr. H. Hudnall Ware, Professor Emeritus of Obstetrics and Gynecology at the Medical College of Virginia.

The program is accepted for continuous study credit of six hours by the American Academy of General Practice.

Medical and Chirurgical Faculty of Maryland.

The 161st Annual Meeting of the Faculty will be held in Baltimore, April 9-11. Subjects included in the program are: Official Investigation of Sudden, Suspicious and Violent Deaths—a Community Responsibility by Dr. Milton Helpern, chief medical examiner of New York City; Intrasynovial Corticosteroid Therapy in Arthritis by Dr. Joseph L. Hollander, University of Pennsylvania; a Panel on Opportunities and Procedures for the Early Diagnosis of Carcinoma of the Cervix; Detection of Head and Neck Cancer by Dr. Robert H. Johnson, Jr., University of Maryland; Experiences with Cardiac Transplantation in Man by Dr. Denton A. Cooley, Baylor University; The Continuum of Medical Care and Medical Education by Dr. Robert L. Evans, York Hospital, Pa.; and a Panel on Coronary Care.

All physicians are invited to attend these sessions. If interested, a copy of the detailed program may be obtained from Joseph D. B. King, M.D., Chairman, 211 Cathedral Street, Baltimore, Maryland 21201.

Dermatologist Wants Position.

Board eligible, service completed, age 33, married. Seeks solo, association, partnership or group practice. Write #145, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Hospital Physician Wanted.

The Medical Staff, Board of Directors and Administration of Winchester Memorial Hospital, Winchester, Virginia, are seeking the service of one full-time physician to join three in private general practice, limited strictly to the Emergency Department of the Hospital. Average work week is forty-two hours. A generous guarantee has been established.

Interested physicians with a Virginia license, contact the Committee Chairman, James A. Miller, M.D., Box 987, Winchester, Virginia. Telephone (703) 662-4121, Ext. 221. (*Adv.*)

Mary Washington Hospital,

Fredericksburg, wishes to begin a Medical Staff and Hospital Board approved, full time Emergency Department physician program. Fee for service basis with guaranteed minimum income. Estimate 16,000 to 17,000 E.R. patients in 1969. Interested physicians please contact Harry Bach, Administrator, telephone 373-4110 (area code 703). (*Adv.*)

Correspondence . . . .

The Cost of Medicare.

January 7, 1969

Dear Doctor:

The law requires that as Secretary of Health, Education, and Welfare I determine the premium rate for the supplementary medical insurance part of Medicare (Part B) for the period July 1, 1969, to June 30, 1970. On December 31, 1968, I set the rate at $4 a month to be paid by the older person with the Government paying a like amount. This is the same as the rate being charged in the current period.

I am sending you a copy of the statement that I issued at that time because I would like you and all other physicians in the country to have an opportunity to know more fully of the concerns and considerations that were involved in arriving at the decision. In my statement I strongly urged physicians to show voluntary restraint in connection with fee increases and I also strongly urged all parties concerned to restrain unnecessary utilization of physicians' services. As you will see from the statement, the $4 rate is based on the assumption that the level of physicians' fees to be reimbursed under the Medicare program and the level of the utilization of physicians' services under the Medicare program will remain approximately at the level being currently experienced. This is going to be a very difficult objective to achieve but I believe that with your cooperation it can be done. The Social Security Administration will be working with the Medicare carriers to make every effort to keep the program outlay for the fiscal year 1970 in line with premium income and to do this in a way that is equitable for physicians and for their patients.

In this connection, the statement includes a copy of a telegram that I have sent to the Presidents of the American Medical Association, the National Medical Association, State medical associations and leaders of business, labor and consumer groups urging them to work together toward the objective of preventing the unnecessary utilization of physicians' services and toward keeping expenses for the Medicare program within the income that will be available from the $4 rate and the matching amount from the Government.

I leave office with a belief that the physicians of the country and their Government can work together in a cooperative and constructive relationship. Of course, there will be differences of opinion. This is inevitable—and desirable—in a democracy. But our common goal is clear: the highest quality of medical services for all the American people with freedom on the part of each individual physician to care for his patients in accordance with his best medical judgment.

Since I am leaving office on January 20 if you have any suggestions or comments on any aspect of this matter I suggest you direct your letter to Mr. Thomas M. Tierney, Director of the Bureau of Health Insurance of the Social Security Administration, Baltimore, Maryland.

I trust you will give Mr. Robert Finch, my successor, your support and understanding. The health of the American people is a matter beyond politics.

Sincerely,

WILBUR J. COHEN
Secretary of Health Education, and Welfare

January 27, 1969

Mr. Thomas M. Tierney, Director
Bureau of Health Insurance
Social Security Administration
Baltimore, Maryland

Dear Mr. Tierney:

I am in receipt of Mr. Wilbur J. Cohen's letter directed to the physicians of this country, and I am sure he has a problem as does the whole Medicare Program. You will, of course, recall that the physicians of this country knew that this was going to happen and warned the government against the establishment of Medicare on the basis which was finally adopted. It seems to me that the increased cost of physician's services is due to one or more of the following:

1. We are looking after and being paid for people that we used to see without charge. The medical profession contributed over $600,000,000 of service annually without cost prior to Medicare.
2. There has been an increasing escalation of fees due to inflation which was brought on by our paternalistic government.
3. Because people are able to get things without cost to them, they are abusing the system. This is merely a trait on human nature and, I am sorry to say, must be expected.
4. The priceless ingredient of our society has been that it had the best health that any people enjoy in the entire world. To make this available with very little cost to all recipients is asking for increased cost.
5. More medical care was promised than was needed. More was promised than our profession or facilities can deliver.

I am told that there are some physicians who are taking advantage of the situation, but I am sure they are in the minority, and I can assure you that most physicians in Virginia are aware of this danger and are doing everything within their power to hold down the cost.

I believe in order to stop this increasing spiral greater reliance must be placed on a fee which the patient himself is responsible for. He then will act as a guard against too frequent visits, too many unnecessary demands on his doctor. The old law of supply and demand will never be repealed and unless there is a brake put on this system the costs are going to continue to rise. I realize that you are carrying out your job to the best of your ability, but I think the whole concept adopted by an emotional Congress and encouraged by the Great Society philosophy has caused the trouble, and now Mr. Cohen would like to blame the physicians unfairly. I hope that the new administration will be able to straighten out the mess the last one has forced us into.

Sincerely yours,

John P. Lynch, M.D.
President, Virginia Medicare-Medicaid Council

JPL:ere
cc: Mr. Robert Finch



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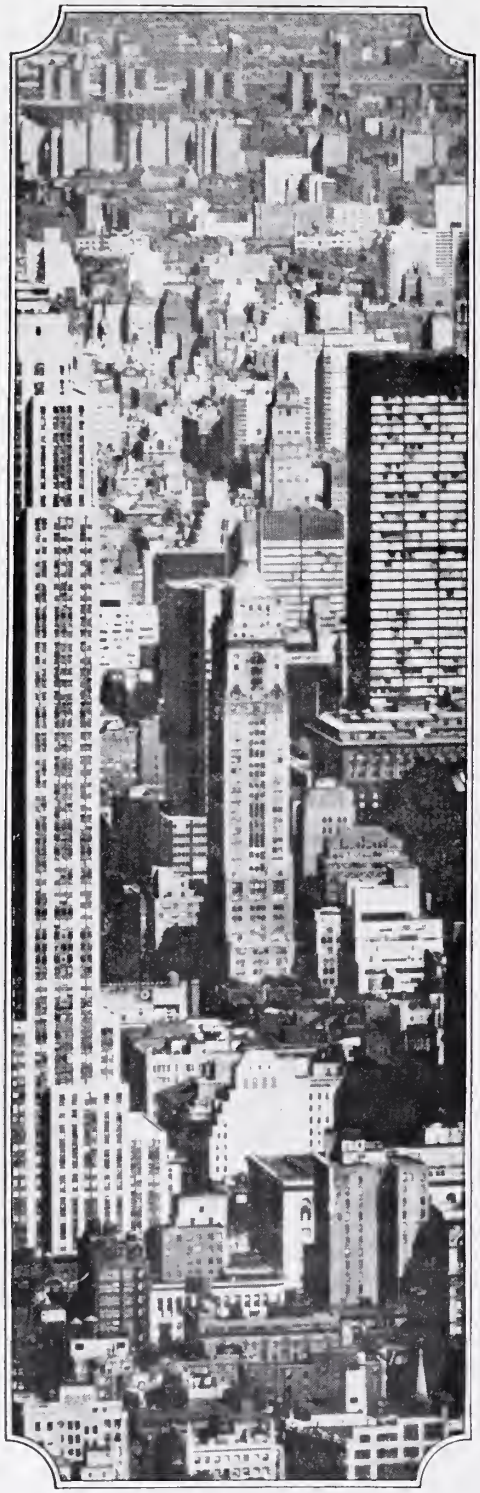
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*References: Antacid studies, data on file, Worner-Chilcott Laborotories Division.

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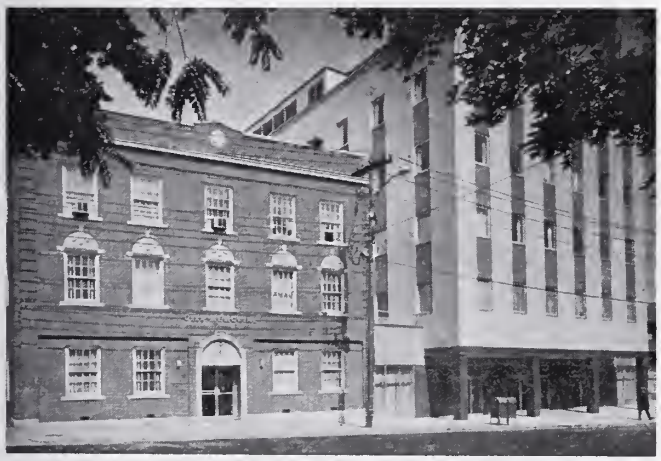
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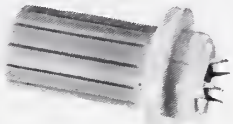
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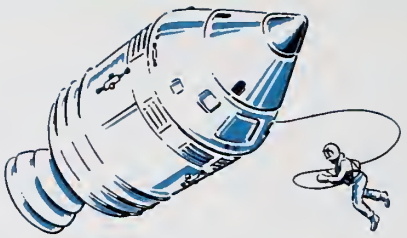
ADVERSE REACTIONS: Side reactions may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, and blurring of vision have been reported. Allergic reactions may occur.

PACKAGING: Bottles of 4 oz., 16 oz., and 1 gal.

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Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

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A clinical supply will be sent to physicians and hospitals on request.

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Just one tablet at bedtime • Prevents painful night leg cramps • Permits restful sleep

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One tablet of QUINAMM at bedtime usually controls distressing night cramps and permits restful sleep with the initial dose.

Prescribing information—Composition: Each white, beveled, compressed tablet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nocturnal and recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindications:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Side Effects/Precautions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

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One Antrocol tablet or capsule taken three times daily lessens emotional stress and maintains a gastric function that is not conducive to the development of peptic ulcer.

Antrocol is also useful in the treatment of peptic ulcer. Dosage up to 8 tablets or capsules per day to obtain the desired antisecretory titer. When ulcer has healed, one Antrocol tablet or capsule morning and evening gives protection against recurrence.

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Atropine Sulfate	0.324 mg.
Phenobarbital (may be habit forming)	16 mg.
Bensulfoid, see white section P.D.R.	65 mg.

Side-effects: Toxic levels of atropine may produce flushing, dry mouth, blurred vision, tachycardia, or urinary retention. Precautions: Do not use in glaucoma. Use cautiously in prostatic hypertrophy.

Federal law prohibits dispensing without prescription.

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For such
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chlorthalidone	50 mg.
reserpine U.S.P.	0.25 mg.

To lower blood pressure
and allay anxiety in hypertension.

For brief summary of prescribing infor-
mation, see next page.

RE-6392

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reserpine U.S.P. 0.25 mg.

the once-a-day tablet for anxious hypertensives

Regroton is a combination of two basic antihypertensives designed to lower blood pressure and allay anxiety in hypertension. With Regroton he can keep his shirt on and you can keep his blood pressure down.

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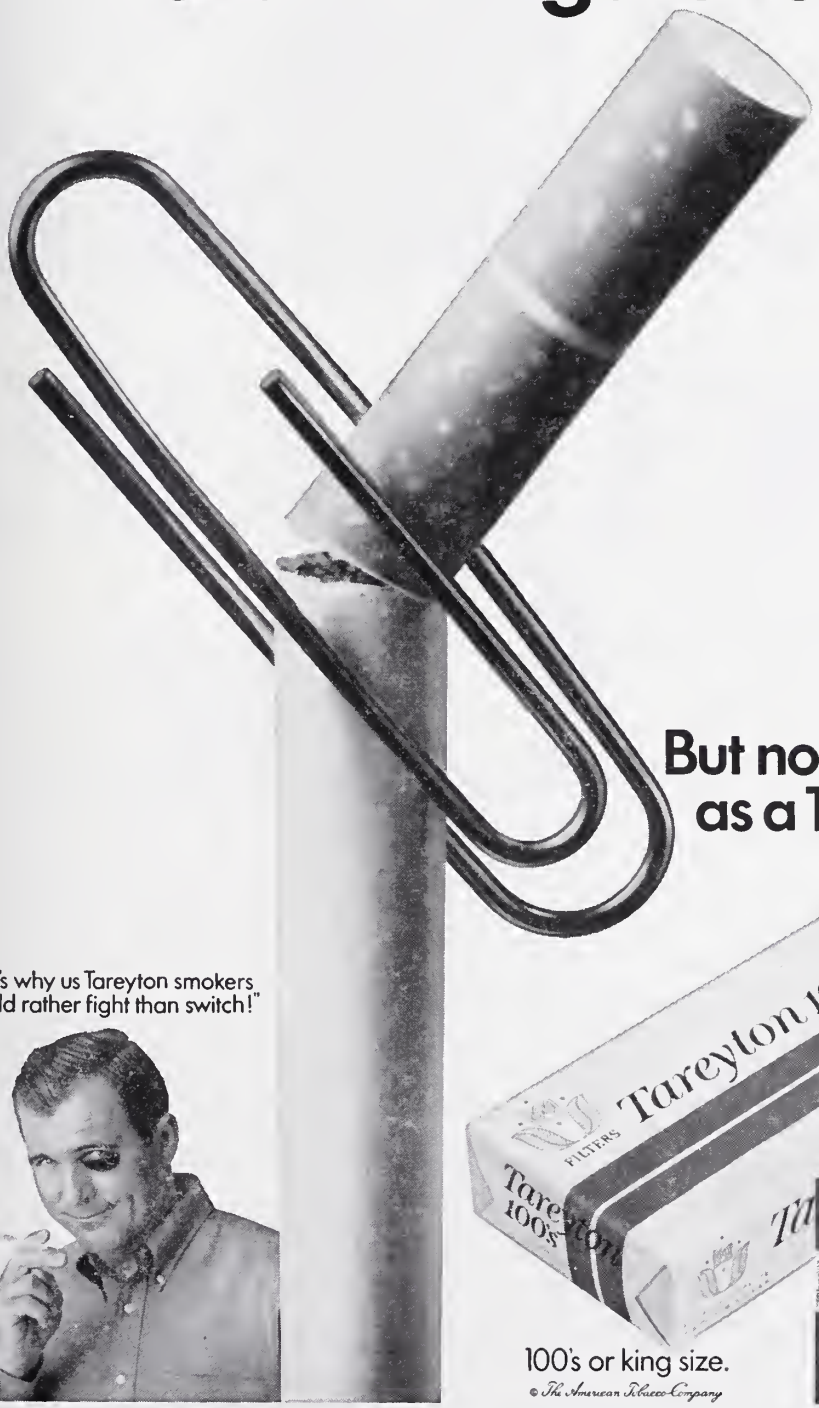
Regroton®
Each tablet contains:
chlorthalidone 50 mg.
reserpine U.S.P. 0.25 mg.

Indications: Hypertension.
Contraindications: History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases.
Warning: With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small-bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue coated potassium-containing formulations immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur. Discontinue one week before electroshock therapy, and if depression or peptic ulcer occurs.
Use in pregnancy: Because chlorthalidone may cross the placental barrier and appear in cord blood and thiazides may appear in breast milk, this drug should be used with care in pregnant patients and nursing mothers. When used in women of childbearing age, the potential benefits of the drug should be weighed against the possible hazards to the fetus. Use of chlorthalidone may result in fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.
Precautions: Antihypertensive therapy with this drug should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. To avoid hypotension during surgery, discontinue therapy with this agent two weeks prior to elective surgical procedures. In emergency surgery, use, if needed, anticholinergic or adrenergic drugs or other supportive measures as indicated. Because of the possibility of progression of renal damage, periodic kidney function tests are indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated. Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, the drug should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.
Take particular care in cirrhosis or severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Severe salt restriction is not recommended. Use cautiously in patients with ulcerative colitis or gallstones (biliary colic may be precipitated). Bronchial asthma may occur in susceptible patients.
Adverse Reactions: The drug is generally well tolerated. The most frequent side effects are nausea, gastric irritation, vomiting, diarrhea, constipation, muscle cramps, headache, dizziness and acute gout. Other potential side effects include angina pectoris, anxiety, depression, bradycardia and ectopic cardiac rhythms (especially when used with digitalis), drowsiness, dull sensorium, hyperglycemia and glycosuria, hyperuricemia, lassitude, restlessness, transient myopia, impotence or dysuria, orthostatic hypotension which may be potentiated when chlorthalidone is combined with alcohol, barbiturates or narcotics, leukopenia, aplastic anemia, skin rashes, thrombocytopenia, agranulocytosis, nasal stuffiness, increased gastric secretions, nightmare, purpura, urticaria, ecchymosis, weakness, uveitis, optic atrophy and glaucoma, and pruritus. Eruptions and/or flushing of the skin, a reversible paralysis agitans-like syndrome, blurred vision, conjunctival injection, increased susceptibility to colds, dyspnea, weight gain, decreased libido, dryness of the mouth, deafness, anorexia, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Jaundice, xanthopsia, paresthesia, photosensitization and necrotizing angiitis are possible.
Average Dosage: One tablet daily with breakfast.
Availability: Pink, single-scored tablets in bottles of 100 and 1000.
(B)46-600-C
For details, please see complete prescribing information.

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Her urinary tract infection reveals itself through pain and discomfort.

While the pain and discomfort of a G.U. infection are anything but pleasant, the patient may be luckier than she realizes. That burning sensation (and/or frequency, urgency, dysuria) is a usually reliable sign of a urinary tract infection. And it's her good fortune that her infection won't go undetected...or untreated.

Azo Gantanol® therapy usually provides analgesic action within one-half hour, while control of the infection begins within two hours. Azo, a specific urinary analgesic, soothes inflamed mucosa to give symptomatic relief. At the same time, the antibacterial component, Gantanol (sulfamethoxazole), achieves therapeutic levels in the blood and urine, with diffusion into interstitial fluids. Azo Gantanol—a good choice when urinary tract infection reveals itself through symptomatic distress.

Before prescribing, please consult complete product information, a summary of which appears on opposite page.

Azo Gantanol®

(Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.)

Azo for the pain
Gantanol®
(sulfamethoxazole)
for the pathogens

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Urinary tract infections with associated pain or discomfort when due to susceptible organisms; prophylactically in urologic surgery, catheterization and instrumentation.

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, newborn infants during the first three months of life, glomerular nephritis, severe hepatitis, uremia and pyelonephritis of pregnancy with gastrointestinal disturbances.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In closely intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

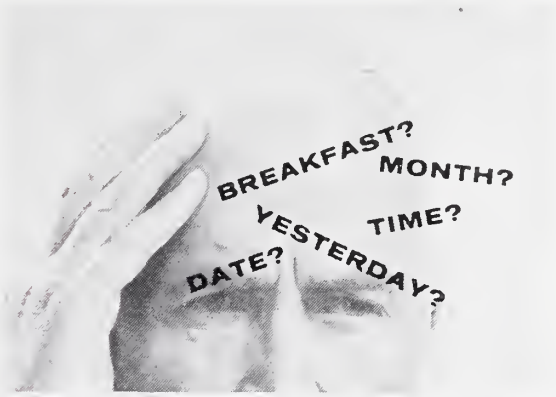
Precautions: Observe usual sulfonamide therapy precautions including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus and rickettsial infections.

Adverse Reactions: Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-Johnson syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

Dosage: Adults—4 tablets initially, then 2 tablets morning and evening.

How Supplied: Tablets, bottles of 50.

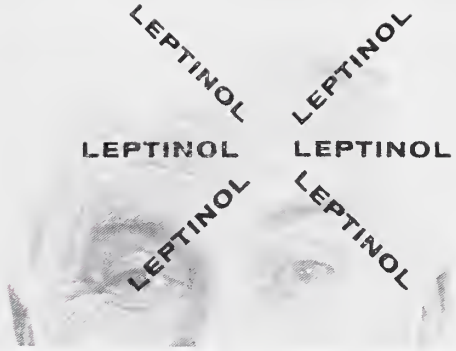
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When elderly patients display symptoms of apathy, mental confusion, memory lapses...

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LEPTINOL® is a non-addictive stimulant which is a useful adjunct in elevating the mood of the elderly patient who displays apathy, mental confusion or memory lapses. It is a combination of pentylenetetrazol, niacin, thiamin and ascorbic acid which acts as a central nervous stimulant and which exerts its primary effect on the mid-brain and the medullary center. Because no addiction or intolerance is introduced, you may also find LEPTINOL® to be a welcome adjunct even to the treatment of slow degenerative diseases.

Each bi-layer tablet contains: Pentylenetetrazol 100 mg., Niacin 50 mg., Thiamine Hydrochloride 1 mg., Ascorbic Acid 20 mg. Dose—one or two tablets three times daily, one-half hour before meals. Maximum dosage is two tablets per dose, six tablets per day. Side effects—Excessive dosage may cause transient flushing, muscular twitching, hyperreflexia and convulsions, and respiratory paralysis. Use cautiously in elderly patients who are unstable or paranoid.

Contraindicated in patients with low convulsive threshold, epilepsy or severe hypertension.

LEPTINOL® is supplied in bottles of 100, 500 and 1,000 tablets.

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You've made it one of your specifics in acute otitis media

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE



You've made it one of your specifics in acute otitis media

DECLOMYCIN acts against many strains of H. influenzae, pneumococci and streptococci, the most common invaders. In otitis media, where it is difficult to isolate the causative organism, this coverage may be important. However, some strains may be resistant and other pathogens can be involved.

You've found the high serum levels of DECLOMYCIN important, too. Its prolonged action permits convenient 300 mg b.i.d. or 150 mg q.i.d. administration.

When specimens are obtainable, your culture studies will indicate the usefulness of DECLOMYCIN.

Effectiveness: DECLOMYCIN Demethylchlortetracycline should be equally or more effective therapeutically than other tetracyclines in infections caused by organisms sensitive to the tetracyclines.

Contraindication: History of hypersensitivity to demethylchlortetracycline.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity: onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose-related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

DECLOMYCIN®
DEMETHYLCHLORTETRACYCLINE

Capsules: 150 mg; **Tablets:** film coated, 300 mg, 150 mg and 75 mg of demethylchlortetracycline HCl.

398-8

LEDERLE LABORATORIES, A Division of
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(SODIUM BUTABARBITAL)

the "daytime sedative" for everyday situational stress

When stress is situational—environmental pressure, worry over illness—the treatment often calls for an anxiety-allaying agent which has a prompt and predictable calming action and is remarkably well tolerated. BUTISOL SODIUM (sodium butabarbital) meets this therapeutic need.

After 30 years of clinical use . . . still a first choice among many physicians for dependability, safety and economy in mild to moderate anxiety.

Contraindications: Porphyria or sensitivity to barbiturates.

Precautions: Exercise caution in moderate to severe hepatic disease. Elderly or debilitated patients may react with marked excitement or depression.

Adverse Reactions: Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and systemic disturbances are seldom seen.

Warning: May be habit forming.

Usual Adult Dosage: As a daytime sedative, 15 mg. (¼ gr.) to 30 mg. (½ gr.) t.i.d. or q.i.d.

Available for daytime sedation: Tablets, 15 mg. (¼ gr.), 30 mg. (½ gr.); Elixir, 30 mg. per 5 cc. (alcohol 7%).

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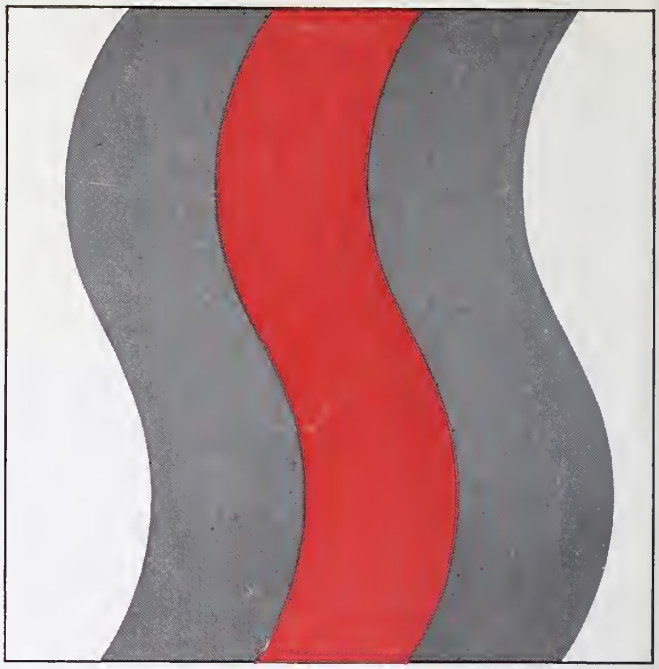
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with the aid of antianxiety

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(chlordiazepoxide)

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Before prescribing, please consult complete product information, o summory of which follows:

Indications: Indicated when anxiety, tension and apprehension are significant components of the clinical profile.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Coution patients obout possible combined effects with alcohol and other CNS depressonts. As with oll CNS-acting drugs, caution potients against hazardous occupotions requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use coution in administering to oddiction-prone individuals or those who might increose dosoge; withdrowol symptoms (including convulsians), fallawing discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, loctotion, ar in women of childbeoring age requires that its potential benefits be weighed ogainst its possible hozards.

Precautions: In the elderly ond debilitated, and in children over six, limit to smallest effective dosage (initiolly 10 mg or less per day) ta preclude ataxio ar oversedation, increosing gradually as needed ond tolerated. Nat recommended in children under six. Though generally nat recammended, if combination theropy with other psychotropics seems indicated, carefully consider individuol pharmacologic effects, porticularly in use of potentiating drugs such os MAO inhibitars and phenothiozines. Observe usual precautions in presence of impaired renal or hepatic function. Paradaxical reactions (e.g., excitement, stimulotion and acute rage) have been reported in psychiatric patients and hyperoctive oggressive children. Employ usual precautions in treotment of onxiety stotes with evidence of impending depression; suicidol tendencies moy be present and protective measures necessary. Variable effects on blaod coagulation have been reported very rorely in potients receiving the drug and orol anticoagulants; causal relotionship has not been estoblished clinically.

Adverse Reactions: Drawsiness, otoxio ond confusion may occur, especiolly in the elderly and debilitated. These ore reversible in most instonces by proper dosoge odjustment, but are also occasionally observed ot the lawer dosage ronges. In o few instonces syncope has been reparted. Alsa encountered are isolated instonces of skin eruptions, edemo, minor menstrual irregularities, nausea and constipation, extropyramidol symptoms, increased and decreosed libido—all infrequent ond generally controlled with dosoge reduction; chonges in EEG potterns (low-voltage fost activity) moy oppear during and ofter treatment; blood dyscrosias (including agronulocytosis), joundice ond hepotic dysfunction hove been reported occasionally, moking periodic blood counts ond liver function tests odvisable during protracted therapy.

Virginia MEDICAL MONTHLY

APRIL 1969

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Obesity Oddities

FACT & LEGEND



CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

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BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

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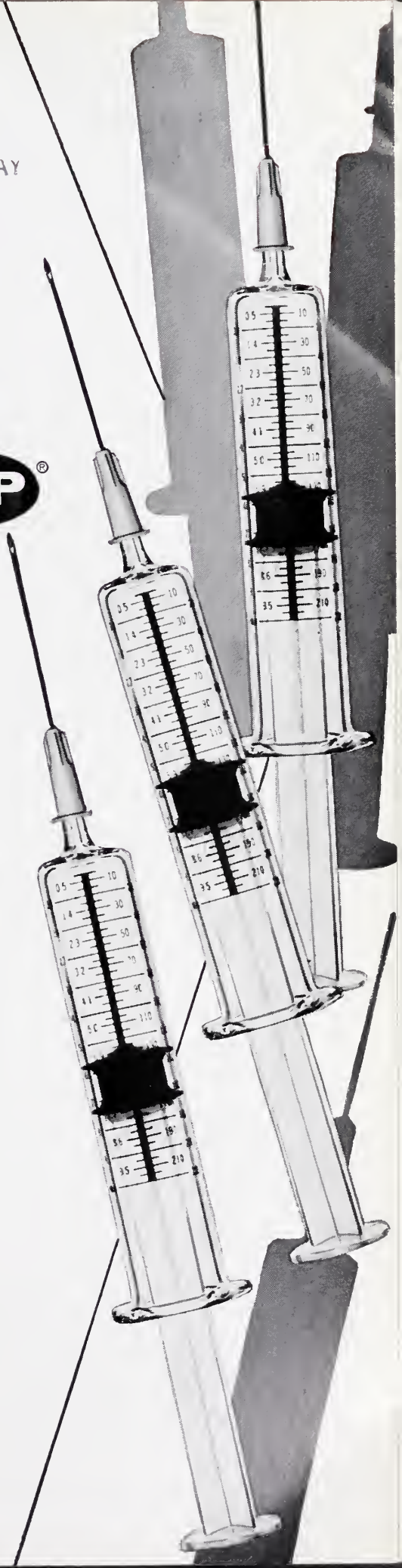
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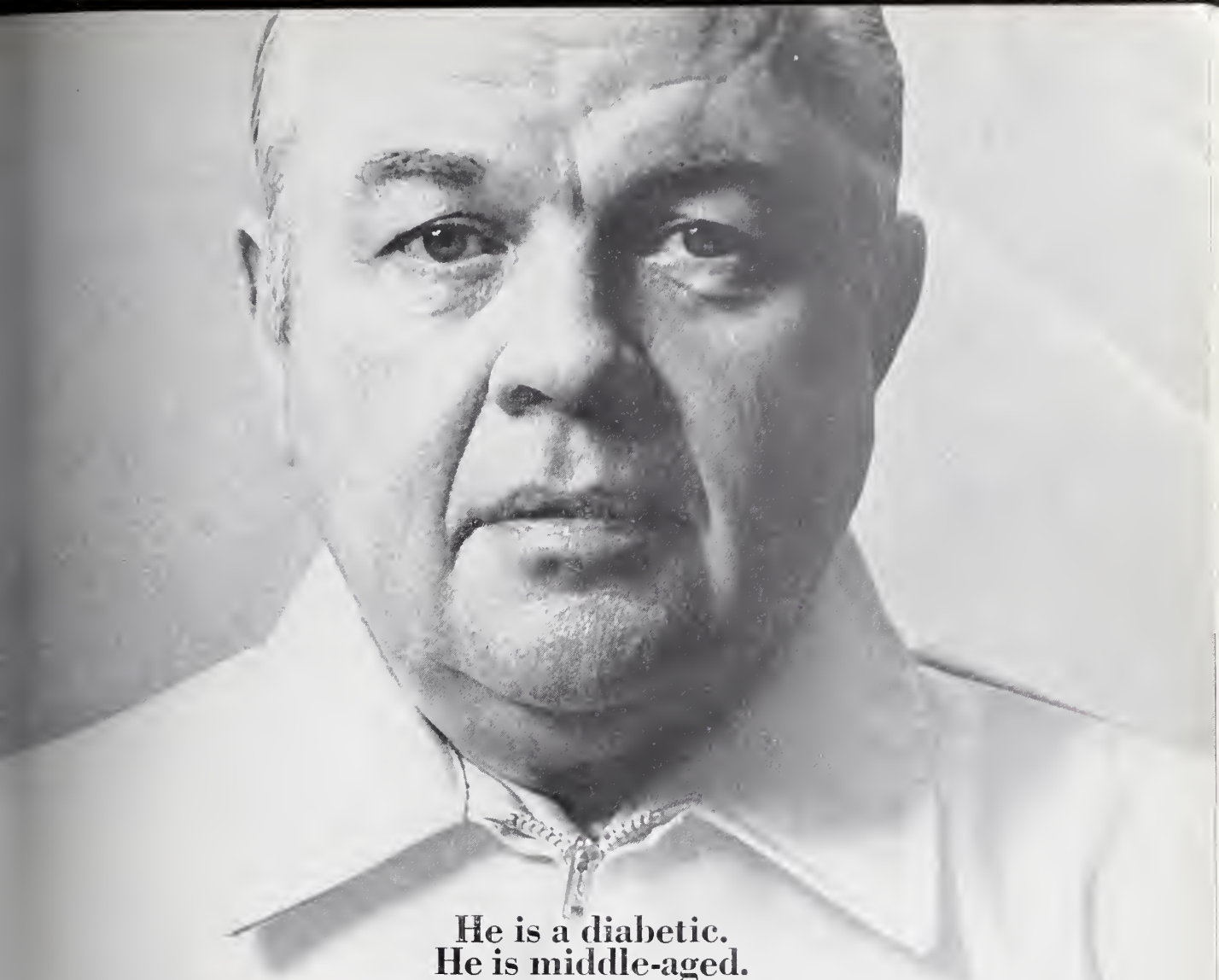
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Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

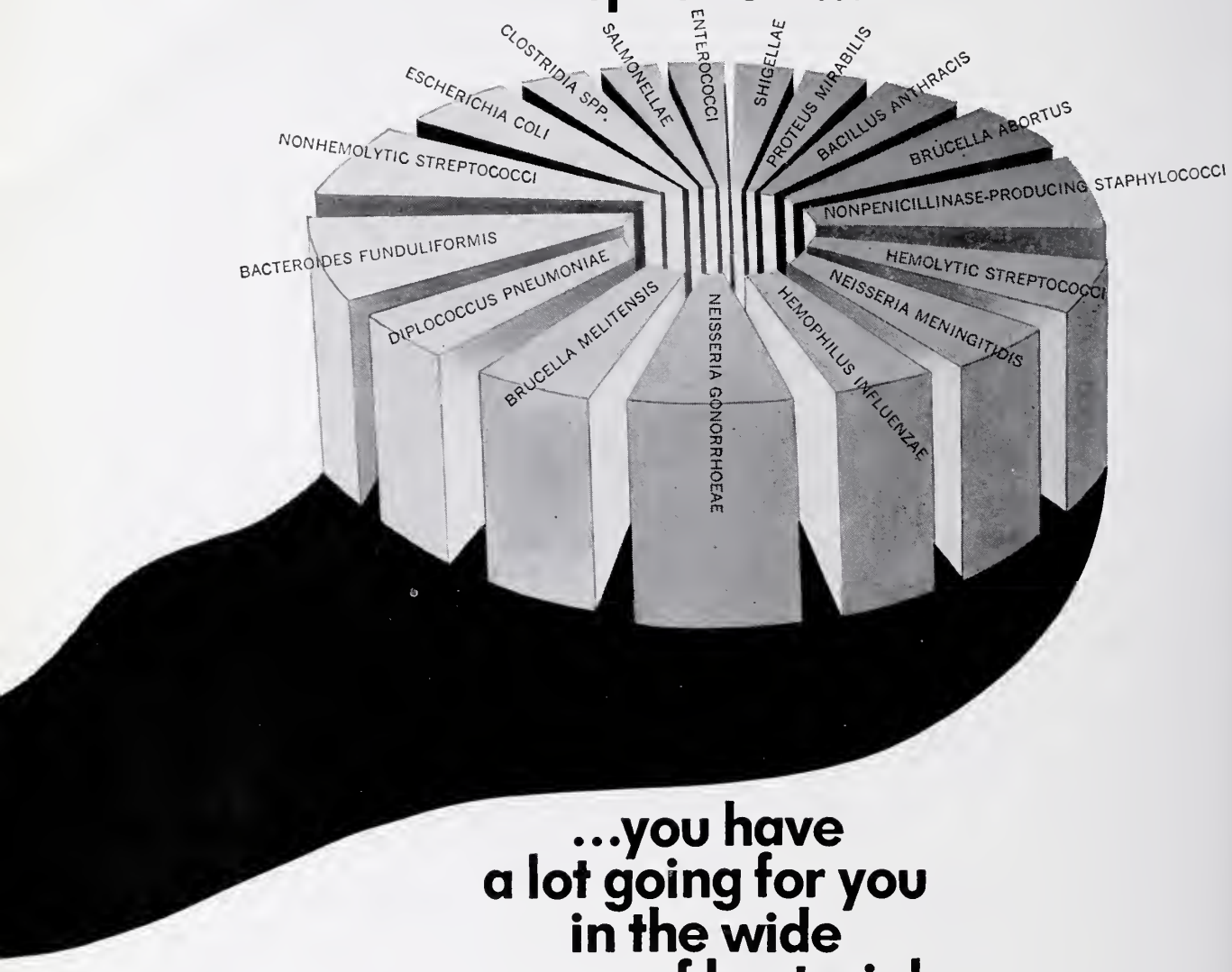
Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

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Contraindications: A history of allergic reactions to penicillins or cephalosporins and infections due to penicillinase-producing organisms.
Precautions. Typical penicillin-allergic reactions may occur, especially in hypersensitive patients. Mycotic or bacterial superinfections may occur. Experience in newborn and premature infants is limited and caution should be used in treatment, with frequent organ function evaluations. Safety for use in pregnancy is not established. In gonorrheal therapy, serologic tests for syphilis should be performed initially and monthly for 4 months. Assess renal, hepatic and hematopoietic function intermittently during long-term therapy.
Adverse Reactions: Skin rash, pruritus, urticaria, nausea, vomiting, diarrhea and anaphylactic reactions. Mild transient elevations of SGOT or SGPT have been noted. Black tongue has been noted in some patients receiving the Chewable Tablets.
Usual Dosage: Adults—250 or 500 mg. q. 6 h. (according to infection site and offending organisms). Children—50-100 mg./Kg./day in 3 to 4 divided doses (depending on infection site and offending organisms). Bacterial meningitis—150-200 mg./Kg./day in 6 to 8 divided doses. Children weighing more than 20 Kg. should be given an adult dose when prescribing orally. In parenteral administration, children weighing more than 40 Kg. should be given an adult dose. Beta-hemolytic streptococcal infections should be treated for at least 10 days.
Supplied: Capsules—250 mg. in bottles of 24 and 100. 500 mg. in bottles of 16 and 100. For Oral Suspension—125 mg./5 ml. in 60, 80 and 150 ml. bottles. 250 mg./5 ml. in 80 and 150 ml. bottles. Chewable Tablets—125 mg. in bottles of 40. Injectable—for I.M./I.V. use—vials of 125 mg., 250 mg., 500 mg., and 1 Gm. Pediatric Drops—100 mg./ml. in 20 ml. bottles.
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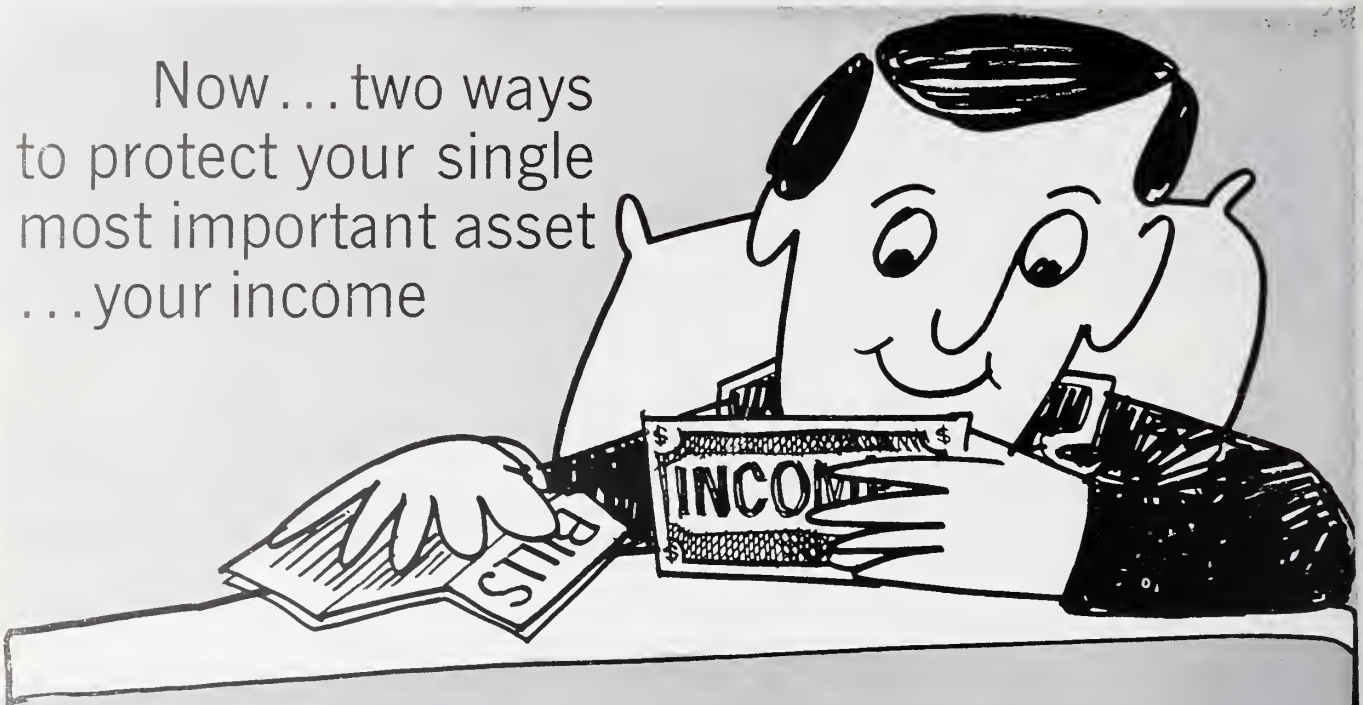
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Contraindications: Hypersensitivity to antihistamines. Not recommended for use during pregnancy.
Precautions: Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.
Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia, have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.
Dosage: 1 Extentab morning and evening.
Supplied: Bottles of 100 and 500.

A.H. ROBINS COMPANY
RICHMOND, VA. 23220

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Librax combines, in a single convenient capsule, the well-known antianxiety effect of Librium® (chlordiazepoxide HCl) and the dependable anticholinergic/antispasmodic effect of Quarzan® (clidinium Br). Therefore, as Librax helps to relieve the patient's excessive anxiety and reduce his overreaction to stress, it also, at the same time, helps to control hypersecretion and hypermotility, thus relieving spasm and abdominal discomfort.

With Librax, the dosage schedule is simple: 1 or 2 capsules, t.i.d. or q.i.d., will in most cases bring the patient significant relief of both the emotional and physical elements that contribute to his psychovisceral disorder.

Before prescribing, please consult complete product information, a summary of which follows.

INDICATIONS: Indicated as adjunctive therapy to control emotional and somatic factors in gastrointestinal disorders.

CONTRAINDICATIONS: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

WARNINGS: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

PRECAUTIONS: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and toler-

or here.



ated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

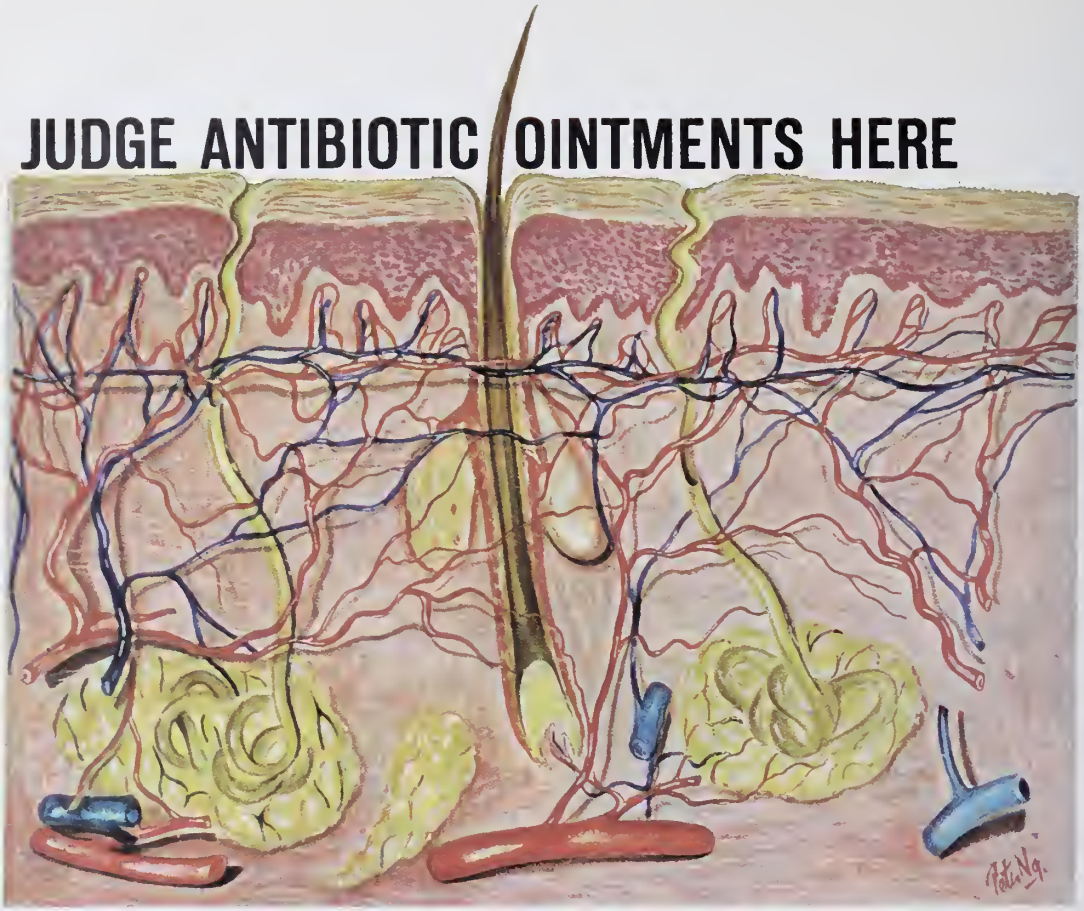
ADVERSE REACTIONS: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver-function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diet.

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Caution: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Contraindications: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

Supplied: Tubes of 1 oz., ½ oz. with applicator tip, and ⅛ oz. with ophthalmic tip.

Complete literature available on request from Professional Services Dept. PML.

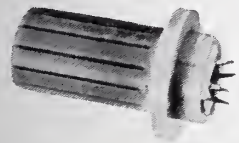
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EPHEDRINE HCl	16 mg.

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Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop. Iodide contraindications: tuberculosis, pregnancy.

DOSAGE: One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

WILLIAM P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217
Manufacturers of ethical pharmaceuticals since 1856

mùdrane®

BRONCHIAL DISTRESS


"I feel
so light-
headed..."

She's confused...and frightened. Yesterday, her complaint was a brief spell of dizziness. Next week, she may be troubled by prolonged nausea or tinnitus. The symptom of vertigo is a constant problem in geriatrics, and regardless of origin, duration, and frequency, such episodes can result in severe emotional and physical discomfort for the aging patient.

You can help prevent such problems with

BONINE®

(MECLIZINE HCl)

protects most patients against nausea and vertigo up to 24 hours with a single dose.

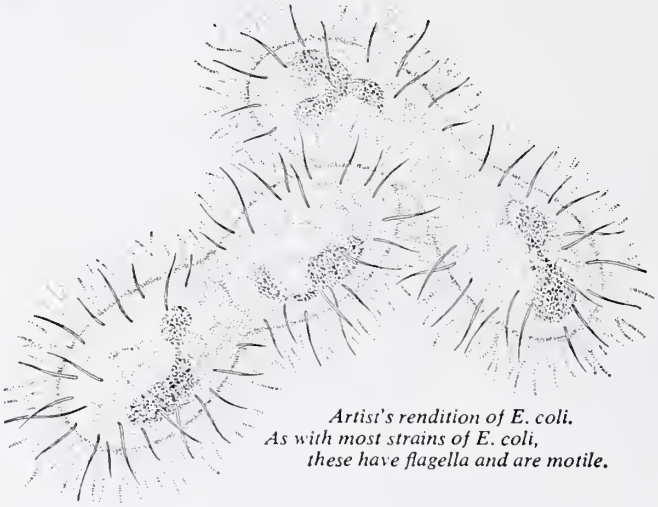
Whether the symptoms are due to Ménière's syndrome, labyrinthitis, vestibular dysfunction, or cerebral arteriosclerosis, most patients with nausea and vertigo respond remarkably well to Bonine (meclizine HCl). A single dose usually protects up to 24 hours. In difficult cases multiple daily doses may be necessary for maximum response.

One-a-day dosage costs your patients less. And fruit-flavored Bonine chewable tablets are more convenient to take anytime, anywhere—without water. Side effects are infrequent and mild, even with prolonged use.

Precautions: Although the incidence of drowsiness and atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. *Use in women of childbearing age:* In weighing potential benefits vs. risk in women of childbearing age, consider the fact that a review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum.
Supply: 25 mg. scored tablets.
More detailed professional information available on request.

Pfizer LABORATORIES DIVISION
New York, N.Y. 10017

To help avert chronicity in acute cystitis



Artist's rendition of E. coli. As with most strains of E. coli, these have flagella and are motile.

Although it may coexist with chronic pyelonephritis or prostatitis, many cases of chronic cystitis may result from incomplete treatment of a simple, acute cystitis. For this reason, it is being increasingly recommended that appropriate antibacterial therapy in full dosage be maintained for up to two weeks or longer.

Most frequently, the dominant pathogen is gram-negative, usually *E. coli;* most often, you will find Gantanol® (sulfamethoxazole) effective against *E. coli* and other sensitive organisms—gram-positive and gram-negative—commonly seen in cystitis and other urinary tract infections. Wide clinical usage of Gantanol has confirmed the efficacy of this wide-spectrum antimicrobial agent in the treatment of cystitis.

The rapidity of bacterial multiplication in a favorable urinary environment is well known. Prompt control of acute bladder infection is therefore essential

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute and chronic urinary tract, respiratory and soft tissue infections due to susceptible microorganisms; prophylactically following diagnostic instrumental procedures on genitourinary tract.

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first 3 months of life.

Warnings: Use only after critical appraisal in patients with liver or renal damage, urinary obstruction or blood dyscrasias. Deaths reported from hypersensitivity reactions, Stevens-Johnson syndrome, agranulocytosis, aplastic anemia and other blood dyscrasias. In closely intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed. Clinical data insufficient on prolonged or recurrent therapy in chronic renal diseases of children under 6 years.

Precautions: Occasional failures may occur due to resistant microorganisms. Not effective in virus and rickettsial infections. Sulfonamides not recommended

not only to reduce the patient's discomfort but to prevent chronicity and possible ascending infection.

Gantanol (sulfamethoxazole) provides antibacterial activity within two hours of the initial 2-Gm dose, and subsequent 1-Gm doses, taken morning and evening, maintain therapeutic blood and urine levels lasting up to 12 hours. Significant symptomatic response is frequently achieved within 24 to 48 hours in acute, uncomplicated cystitis and other responsive urinary tract infections. In addition, Gantanol is usually well tolerated. Should prolonged therapy be required, the convenient *b.i.d.* dosage helps to minimize the problem of skipped doses.

Over eight years' clinical use has thoroughly demonstrated the qualities that make Gantanol a good choice for initial therapy of most urinary tract infections, including acute cystitis.

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for therapy of acute infections caused by group A beta-hemolytic streptococci. At present, penicillin is drug of choice in acute group A beta-hemolytic streptococcal infections; although Gantanol has produced favorable bacteriologic conversion rates in this infection, data insufficient on long-term follow-up studies as to its effect on sequelae of rheumatic fever or acute glomerulonephritis. If other treatment cannot be used and Gantanol is employed in such infections, *important that therapy be continued in usual recommended dosage for at least 10 days.* Observe usual sulfonamide therapy precautions, including adequate fluid intake. Use with caution if history of allergies and/or asthma. Follow closely patients with renal impairment since this may cause excessive drug accumulation. Need for indicated local measures or surgery not obviated in localized infections.

Adverse Reactions: Depending upon the severity of the reaction, may withdraw drug in event of headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, Stevens-Johnson syndrome, skin rash, injection of the conjunctiva and sclera, petechiae, purpura, hematuria and crystalluria.

Gantanol® (sulfamethoxazole) assures rapid, sustained, antibacterial activity with b.i.d. dosage

Gantanol® B.I.D. (sulfamethoxazole)

ROCHE
Roche
LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110





Sometimes
he forgets he has hypertension, gets hot
under the collar...high under the cuff.

For such
patients, consider **Regroton®**

chlorthalidone	50 mg.
reserpine U.S.P.	0.25 mg.

To lower blood pressure
and allay anxiety in hypertension.

For brief summary of prescribing information, see next page.

RE-6392

Regroton®

Geigy

chlorthalidone 50 mg.
reserpine U.S.P. 0.25 mg.

the once-a-day tablet for anxious hypertensives

Regroton is a combination of two basic antihypertensives designed to lower blood pressure and allay anxiety in hypertension. With Regroton he can keep his shirt on and you can keep his blood pressure down.

Before prescribing, please review carefully the indications, contraindications, warning, precautions, adverse reactions and dosage information below.

Regroton®
Each tablet contains:
chlorthalidone 50 mg.
reserpine U.S.P. 0.25 mg.

Indications: Hypertension.
Contraindications: History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases.
Warning: With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small-bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue coated potassium-containing formulations immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur. Discontinue one week before electroshock therapy, and if depression or peptic ulcer occurs.
Use in pregnancy: Because chlorthalidone may cross the placental barrier and appear in cord blood and thiazides may appear in breast milk, this drug should be used with care in pregnant patients and nursing mothers. When used in women of childbearing age, the potential benefits of the drug should be weighed against the possible hazards to the fetus. Use of chlorthalidone may result in fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.
Precautions: Antihypertensive therapy with this drug should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. To avoid hypotension during surgery, discontinue therapy with this agent two weeks prior to elective surgical procedures. In emergency surgery, use, if needed, anticholinergic or adrenergic drugs or other supportive measures as indicated. Because of the possibility of progression of renal damage, periodic kidney function tests are indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated. Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, the drug should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.
Take particular care in cirrhosis or severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Severe salt restriction is not recommended. Use cautiously in patients with ulcerative colitis or gallstones (biliary colic may be precipitated). Bronchial asthma may occur in susceptible patients.
Adverse Reactions: The drug is generally well tolerated. The most frequent side effects are nausea, gastric irritation, vomiting, diarrhea, constipation, muscle cramps, headache, dizziness and acute gout. Other potential side effects include angina pectoris, anxiety, depression, bradycardia and ectopic cardiac rhythms (especially when used with digitalis), drowsiness, dull sensorium, hyperglycemia and glycosuria, hyperuricemia, lassitude, restlessness, transient myopia, impotence or dysuria, orthostatic hypotension which may be potentiated when chlorthalidone is combined with alcohol, barbiturates or narcotics, leukopenia, aplastic anemia, skin rashes, thrombocytopenia, agranulocytosis, nasal stuffiness, increased gastric secretions, nightmare, purpura, urticaria, ecchymosis, weakness, uveitis, optic atrophy and glaucoma, and pruritus. Eruptions and/or flushing of the skin, a reversible paralysis agitans-like syndrome, blurred vision, conjunctival injection, increased susceptibility to colds, dyspnea, weight gain, decreased libido, dryness of the mouth, deafness, anorexia, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Jaundice, xanthopsia, paresthesia, photosensitization and necrotizing angiitis are possible.
Average Dosage: One tablet daily with breakfast.
Availability: Pink, single-scored tablets in bottles of 100 and 1000.
(B)46-600-C
For details, please see complete prescribing information.

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York 10502

RE-6392



introducing alginates to antacids

for a difference in taste you can feel

Derived from seaweed, and long used to impart velvety consistency to foods, alginates—a Warner-Chilcott contribution to antacid palatability—help 1) erase the chalkiness and grittiness found with some other antacids; 2) dispel unpleasant aftertaste. Like ice cream, Gelusil-M is smooth and creamy; and it has a cool mint flavor. Thus, for your patients Gelusil-M may be better to start on and easier to stay on.

introducing new

GELUSIL®-M*

each 5 ml. teaspoonful contains:
500 mg. magnesium trisilicate
250 mg. aluminum hydroxide (Warner-Chilcott)
200 mg. magnesium hydroxide

*U.S. Patent No. 3,326,755

a consistent buffering anticostive† antacid

†Avoids constipation.

See next page for prescribing information ▶

GELUSIL–one name to remember...and a dosage form for every patient.



Gelusil®-M Liquid

especially for the constipation-prone patient

Indications: Gelusil-M is indicated for prompt and dependable symptomatic relief of peptic ulcer, gastritis, heartburn, hiatal hernia, esophagitis, and other conditions for which control of gastric hyperacidity is required.

Precaution: Prolonged or intensive therapy in patients with severe renal insufficiency may lead to hypermagnesemia.

Dosage: One to two teaspoonfuls (5 ml. to 10 ml.) between meals and at bedtime or whenever symptoms occur. Certain conditions, such as acute peptic ulcer, may require individualized dosage. If diarrhea occurs, reduce dosage or discontinue use.

Supplied: Gelusil-M (spearmint-flavored)—light green bottles of 12 fl. oz.; and a **special hospital pack.** Keep tightly closed—shake vigorously.

Gelusil® Tablets

the universal take-along antacid

Easy to take along / easy to take / pleasantly mint-flavored. An antacid with adsorbent and demulcent properties which contains in one tablet: 0.25 Gm. aluminum hydroxide (Warner-Chilcott) and 0.5 Gm. magnesium trisilicate (USP).

Dosage: 2 tablets—or more—between meals and at bedtime, or whenever symptoms occur. Tablets should be chewed.

Regular Gelusil® Liquid

when constipation is not a problem

Pleasant mint flavor...ideal for hospital or home. Available in 12 fl. oz. and 6 fl. oz. bottles and a special hospital pack. An antacid which contains adsorbent and demulcent agents in each 4 ml. teaspoonful: 0.25 Gm. aluminum hydroxide (Warner-Chilcott), 0.5 Gm. magnesium trisilicate (USP).

Dosage: 2 teaspoonfuls (4 ml. each)—or more—between meals and at bedtime, or whenever symptoms occur.

Also Available: Gelusil® Flavor-Pack, Gelusil-Lac®.

WARNER-CHILCOTT
Morris Plains, New Jersey

GM-IN-91-4C

this ulcer did not heal...until its surface was cleared of dead tissue and debris



FIRST APPLICATION
ELASE Ointment is applied to a deep ulceration of a finger.

EIGHTEEN DAYS LATER
Healing has progressed rapidly without interruption or interference from any accumulated purulence or necrotic tissue. Greatly reduced size of lesion and minimal scar tissue indicate quality and vigor of healing which is almost complete.



to aid in debridement
to facilitate healing
in chronic cutaneous ulcers...

Elase® Ointment

(fibrinolysin and desoxyribonuclease, combined, [bovine] ointment)

PARKE-DAVIS

By helping to remove dead tissue and debris from the ulcer's surface, ELASE Ointment creates a better environment for the elimination of infection, for healthy granulation...*for healing.* Its lytic enzymes effectively break down DNA in dead leukocytes and other debris...the fibrin in blood clots, serum, and purulent exudates...and the denatured proteins in necrotic tissue. Protein elements of *living* tissue are relatively unaffected. ELASE Ointment is indicated in stasis ulcers and in other infected or inflamed ulcers caused by circulatory disturbances. In cases requiring skin grafting, it is used preoperatively for debridement. For ambulatory patients debridement with ELASE Ointment is a convenient therapy and a regimen likely to be followed. *Precautions:* Observe usual precautions against allergic reactions, particularly in persons with a history of sensitivity to materials of bovine origin or to mercury compounds. *Adverse Reactions:* Side effects attributable to the enzymes have not been a problem at the dose and for the indications recommended. *Discussion:* Successful use of enzymatic debridement depends on several factors: (1) dense, dry eschar, if present, should be removed surgically before enzymatic debridement is attempted; (2) the enzyme must be in constant contact with the substrate; (3) accumulated necrotic debris must be periodically removed; (4) the enzyme must be replenished at least once daily; and (5) secondary closure or skin grafting must be employed as soon as possible after optimal debridement has been attained. It is further essential that wound-dressing techniques be performed carefully under aseptic conditions and that appropriate systemically acting antibiotics be administered concomitantly if, in the opinion of the physician, they are indicated. *Available:* ELASE Ointment is supplied in 30-Gm. tubes containing 30 units (Loomis) of fibrinolysin and 20,000 units of desoxyribonuclease with 0.12 mg. thimerosal (mercury derivative); and in 10-Gm. tubes containing 10 units of fibrinolysin and 6,666 units of desoxyribonuclease with 0.04 mg. thimerosal. ELASE Ointment has a special base of liquid petrolatum and polyethylene; contains sodium chloride and sucrose used during manufacture; is stable at room temperature through the expiration date stated on the package.

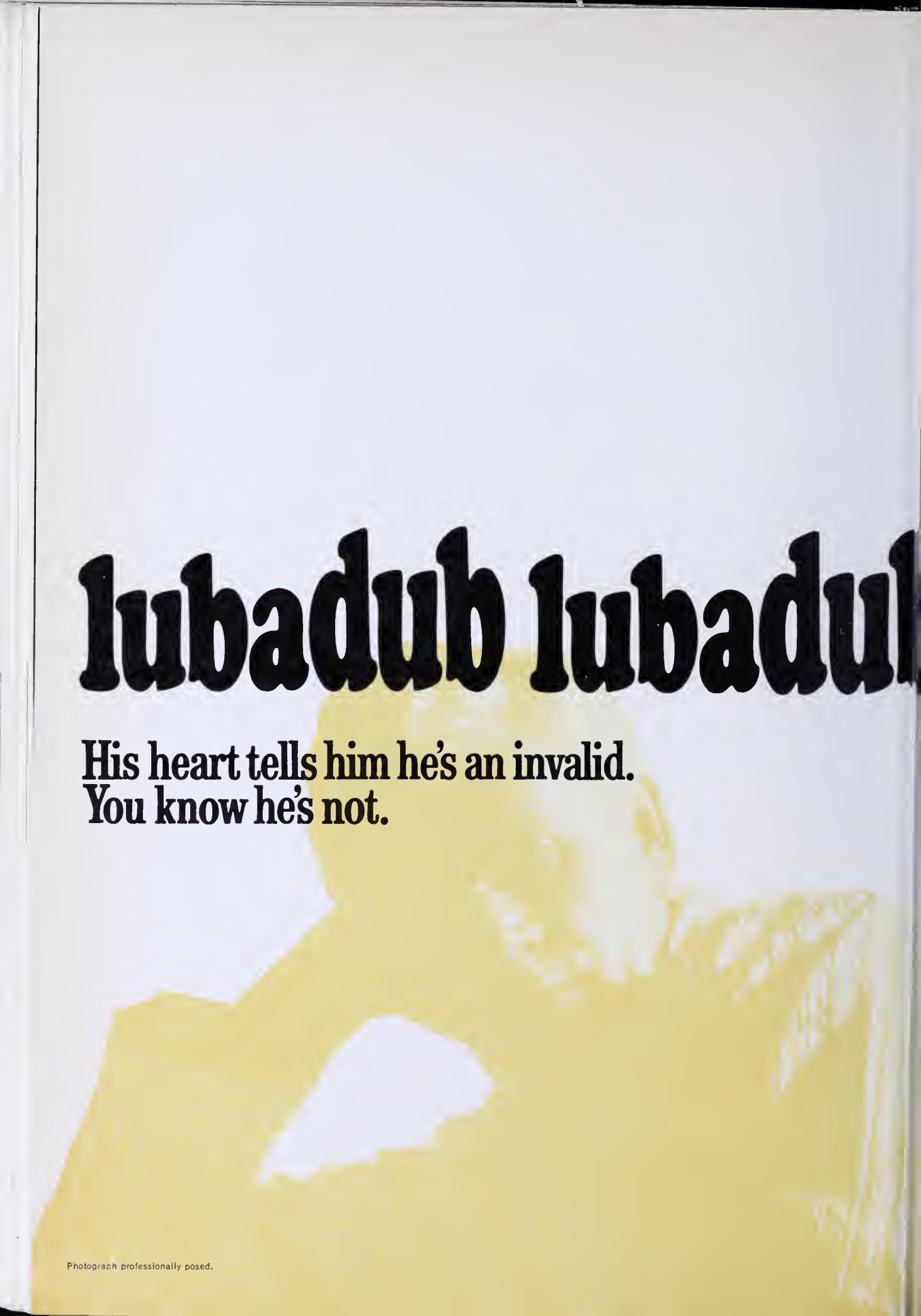
Parke, Davis & Company, Detroit, Michigan 48232

PARKE-DAVIS

48168

lubadub lubadu

His heart tells him he's an invalid.
You know he's not.



Photograph professionally posed.

Contraindications: History of sensitivity to meprobamate.

Important Precautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use has been reported to result in dependence or habituation in susceptible persons, as alcoholics, ex-addicts, and other severe psychoneurotics. After prolonged excessive dosage, reduce dosage gradually to avoid possibly severe withdrawal reactions. Abrupt discontinuance of excessive doses has sometimes resulted in epileptiform seizures.

Warn patients of possible reduced alcohol tolerance, with resultant slowing of reaction time and impairment of judgment and coordination.

Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia, usually transient, have been reported on continuous administration.

Meprobamate may sometimes precipitate grand mal attacks in patients susceptible to both grand and petit mal. Extremely large doses can produce rhythmic fast activity in the cortical pattern. Impairment of accommodation and visual acuity has been reported rarely. After excessive dosage for weeks or months, withdraw gradually (1 or 2 weeks) to avoid recurrence of pretreatment symptoms (insomnia, severe anxiety, anorexia). Abrupt discontinuance of excessive doses has sometimes resulted in vomiting, ataxia, tremors, muscle twitching and epileptiform seizures. Prescribe very cautiously and in small amounts for patients with suicidal tendencies. Suicidal attempts have resulted in coma, shock, vasomotor and respiratory collapse and anuria. Excessive doses have resulted in prompt sleep; reduction of blood pressure, pulse and respiratory rates to basal levels; and occasionally hyperventilation. Treat with immediate gastric lavage and appropriate symptomatic therapy. (CNS stimulants and pressor amines as indicated.) Doses above 2400 mg./day are not recommended.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. (All tablets also available in REDIPAK® [strip pack], Wyeth.) Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

Wyeth Laboratories Philadelphia, Pa.

ibadubdub lubadı

Anxiety is expected in the cardiovascular patient. A little may even be desirable.

But when anxiety is exaggerated . . . when it interferes with sleep . . . when it aggravates cardiovascular symptoms, your help may be needed.

Naturally, you'll want to reassure the patient.

And perhaps prescribe Equanil (meprobamate) as adjunctive therapy. It helps relieve anxiety and tension specifically, yet gently.

Almost 15 years' use has shown that Equanil is usually well tolerated as well as effective. Side effects are generally limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

Equanil®
(meprobamate) Wyeth®


P
M
P
M

A little sunshine for summer cold and allergy sufferers.

Novahistine LP can brighten things in a hurry for your summer cold and allergy patients.
These continuous-release, decongestant tablets contain a vasoconstrictor-antihistamine formulation that goes to work promptly and usually provides effective relief even in those cases of nasal congestion caused by repeated allergic episodes.
And, convenient twice-a-day dosage with Novahistine LP lets most patients enjoy relief all day and all night.
Use with caution in patients with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result.

PITMAN-MOORE Division of
The Dow Chemical Company,
Indianapolis, Indiana.

DOW

Novahistine® LP decongestant

(Each tablet contains 25 mg. of phenylephrine hydrochloride and 4 mg. of chlorpheniramine maleate.)



Darvon®
Compound-65

Each Pulvule® contains 65 mg. propoxyphene hydrochloride, 227 mg. aspirin, 162 mg. phenacetin, and 32.4 mg. caffeine.

Lilly

Additional information available upon request.
Eli Lilly and Company
Indianapolis, Indiana 46206.

900252

The Virginia
MEDICAL MONTHLY

April, 1969
Vol. 96, No. 4
Whole No. 1403

Guest Editorial . . .

Medical X-Rays—Benefit Versus Risk

AGAIN we find the medical and dental uses of x-rays are under fire in the public press and certain popular home journals—as well as in testimony before a congressional committee. The effect has been to alarm the public by alleging that great hazards lie in radiology. The propriety and necessity of x-ray examinations have been questioned, as have the qualifications of users of x-ray equipment.

In contrast, the expert Medical X-Ray Advisory Committee (in its recent report to DHEW) states that "the optimal welfare of the population is almost certainly dependent on a significant *increase* in medical diagnostic x-ray procedures." The committee couples this with an insistent warning that every user must be critically evaluated to get the maximum information with the least radiation.

These phrases go hand-in-hand: the best information comes from equipment which is in top condition, with carefully chosen exposure factors and fields as small as possible, with well filtered radiation, and with ideal recording materials. The same conditions give the patient the smallest radiation dose. It is axiomatic that x-ray examinations should be done only because of a specific medical need—and not because an extra set is desired by an insurance lawyer, or a physician for his own records, nor because of a housestaff physician's request for routine, unnecessary, repetitive examinations, or too strict adherence to governmental regulations. On the other hand, to refuse a needed x-ray is certainly a greater hazard than the radiation itself.

However, the DHEW report (mentioned above) suggests that only a little over half of the x-ray procedures are supervised by specialists in radiology. Public clamor attributes the greater abuses to non-radiologists. Some basis for this attitude does exist; for example, there are still reports of casual use of the standard fluoroscope *without dark adaptation*, a procedure which subjects the patient to as much as ten to a hundred times the necessary levels of radiation and at the same time *diminishes* the information which the physician receives. Another notable cause of excess radiation is the repeat exposure (re-ray) which must be made

when faulty techniques and/or equipment produces a film which is not diagnostic. Frequent causes of this are the wrong type of film, incorrect grid or screen, worn out dark room chemicals or improper development, wrong exposure factors or poor positioning—all errors which a good radiologist and a good technician know how to avoid and *should avoid*. These are the basic essentials of good practice. In slighting them lies the foundation of the small truth that is being used to ferment the "big lie" now rising to plague the medical and dental professions and to disturb patients and their relatives.

The physician is responsible not only for his own training and adequacy, but he is *directly responsible* for the proper training and performance of his staff. In the present instance this means that a person who positions the patient, exposes and develops the film, and sees to proper functioning of x-ray generating devices, dark room chemicals, and all related factors must be a fully trained and reliable individual. These paramedical personnel, in addition to training and consistent attention to adequate performance, must be highly motivated and mature to achieve routinely diagnostic x-rays without extra radiation exposure. If the physician does not fully sustain his responsibility, it will not be long before a regulatory agency will intrude into his office to test, measure and evaluate the way in which he carries out his practice. They might subsequently direct the utilization of any radiant energy device that physicians or dentists may employ. This is a threat which can be seen in the attitude and testimony of some "non-medical experts" who seem to have the ear of the Federal Congress. An attempt to "improve" radiologic practice by installing an inspector to tell the radiologist how to set the controls is comparable to improving highway safety by installing a back seat driver.

For those who feel that regulation is remote, and listen only to the voice of self-interest, there are the powerful economic arguments that your equipment wears out every bit as fast from useless as from useful exposures; x-ray film is expensive; and you just cannot calculate the value of wasted time.

This is a plea to *all* who use x-rays for medical or dental diagnosis to be aware of the obligation to use it appropriately and in a responsible fashion. Our State provides all the prerequisite opportunities for those who want to further their education or want refresher instruction. Similar continuing education courses and technical consultations are available for para-medical personnel as well. We urge that you and your associates make use of your colleagues, regional medical schools, and professional and governmental organizations to assure that we in Virginia achieve the highest degree of benefit from the use of x-rays with minimum risk.

M. P. Neal, Jr., M.D.
E. E. Stickley, Ph.D.

Medical College of Virginia
Richmond, Virginia

Psychological Problems of Aging

WILLIAM C. RUFFIN, JR., M.D.
Gainesville, Florida

As the number of elderly persons in our society increases, the psychiatric problems of the aged become more important. Many of these problems can be treated by the non-psychiatric physician. It is of utmost importance, however, to determine the suicidal risk before deciding about treatment.

AGING and the process of aging is best defined in functional terms as an inevitable, progressive process of impairment in the capacity to adapt, adjust, and survive. The aged state is a condition in which decline of functional capacity, physical-mental, or both, has become manifest, measurable and adaptively significant.

It is customary to think of middle-age as the period of life extending roughly from the age of forty until the age of sixty. Old age begins at about the age of sixty or later and continues until death.

The mental hygiene of old age begins in childhood. An adult who has developed good adaptive capacity as a child can adapt to new areas of productivity when physical, social, and economic constructions of old age shut off his previous outlets. Before considering the psychological problems of the aged, it is absolutely necessary to understand the dynamics of the developmental period involving middle-life. The psychological problems of middle life must be successfully handled prior to the individual solving the problems of old age. Unsuccessful resolution of daily problems in mid-life psychologically handicap the individual for appropriate resolutions in old age. What goes wrong, and what goes right has a great deal of influence on the individual's adaptability. For purposes of discussion, I will make a distinct division between these two developmental periods. It should be clearly pointed out that there is an overlap and intermingling of these processes, but at present I will discuss them separately.

Middle-Age

1. Extends roughly from age forty until the age of sixty.
2. The individual must recognize that he needs to be satisfied by the pleasures he is obtaining in social and environmental situations in which he lives.

   (Until this period of life, persons are frequently buoyed up by hopes for the future and by their assumptions that achieving their goals in life will bring them satisfaction.)
3. The individual relinquishes aims for future goals and faces the fact that the future has arrived.
4. When goals are not reached, depression occurs; it may also be found when goals are reached.

   (As the man achieves the presidency and the woman finds her children going off to be married, the previously accepted goals no longer offer a hope of satisfaction. If the satisfaction has not already been obtained, there is nothing to look forward to, and depression appears.)
5. Middle-age is the time for evaluation of one's self and for learning to obtain satis-

faction from what is rather than what will be.

6. The person in middle-life is forced to make some plans for modifying his life. (This is necessary because of social situations, such as the departure of children for college and marriage, and the demands of work. Also, because of physical factors such as pulmonary or cardiac illness, as well as generally decreased energy and capacity.)
7. The person in middle-life finds himself giving up many of the physical pleasures and satisfactions, and the prestige producing activities, which he previously utilized. The key word is compensation for these losses and substituting day-by-day satisfaction for the losses.

The work accomplished during middle-age is:

(A) Re-evaluation of life goals.
(B) The establishment of reasonable patterns for continued satisfying life.
(C) Pleasure is no longer obtained via anticipation in the distant future.

The unsuccessful resolution of these conflicts commonly results in many physical complaints and frequently in overt depressive reactions.

Old Age

1. Begins at about sixty years of age or later and continues until death.
2. More than in middle-age, the individual is called upon to face his limitations and make radical readjustments of his previous mode of living.
3. The individual must give up achievement patterns of previous years and satisfy himself with new, more restricted patterns.
4. He must recognize he is no longer able to be as quick in grasp, as malleable in methodology, as incisive, and as ambitious as he was previously.
5. He must come to depend more and more on experience to substitute for adaptability.
6. He must recognize that he possesses the resources of experience and maturity which are denied to more energetic, ambitious, and adaptable youth.

Successful working through of these problems can lead to activity, productivity, and satisfaction in old age. The unsuccessful working through of these problems leads to an acceleration of withdrawal and to the ineffectiveness associated with senility.

Extent of the Problem

There has been an absolute and relative increase in the number of aged persons in our society.

1. In 1900 the chronologically aged made up about three per cent of the total population of the United States. (Approximately 3 million individuals over the age of 65 years.)
2. Today, individuals over 65 years of age make up about ten per cent of the population. (Nearly 20 million persons.)

The number of aged persons have tripled, and the medical and psychiatric problems *they present have multiplied even more.*

Admissions to public mental hospitals do not give a true picture of the incidence of functional mental syndromes in old age. A much higher proportion of the aged persons are admitted to private hospitals and to general hospitals. Statistics do not reveal the large number of aged persons with affective disorders who remain in the community under the care of private physicians, in private hospitals under general medical care, or receiving no care, since mental illness in the aged may be tolerated as normal emotional and intellectual problems of aged and are dealt with as legal or administrative problems.

Recent studies indicate that between 25 and 30 per cent of persons 65 years and over

have some form of functional mental disorders, two-thirds of them mild or chronic and the remainder are acute situations. There is an *overwhelming prevalence of depressive syndromes* in the aged population.

The incidents of depression seems to be related to the following factors:

1. Change in attitudes of families and a developing cultural tendency to reject the aged.
2. Smaller houses and apartments.
3. The fact that women now work outside the home.
4. The increasing mobility of families.
5. Improved diagnosis and utilization of institutions, and increase in the number of facilities for care.
6. The increased economic independence of aged persons on Social Security or Welfare.

All of these are important factors in separating the old person from his family.

One of the primary concerns in treating aged individuals is the degree of suicidal drive which is present in the patient at any given time. Astute awareness of the degree of suicidal intent can protect the patient from this disastrous outcome. Many times, depressive illnesses display such meek, seemingly minor surface manifestations as hypochondriasis, insomnia, or generalized fatigue. The physician must be on the look-out for signs of serious suicidal depression.

The paramount signs of suicidal risk are as follows:

1. Marked psychomotor slowing, including retardation of speech, physical movements, constipation, anorexia, and lack of muscle tone.
2. Severe early morning awakening. A typical pattern is for the patient to awaken at approximately 3:00 A.M. and remain in bed, brooding, until daylight or after.
3. Marked diurnal variation, with major feelings of depression occurring between 3:00 and 6:00 A.M. the patient feeling relatively well between 6:00 and 9:00 P.M.
4. Paranoid ideation, particularly delusions of persecution or world destruction.
5. Overt hostility, particularly toward family members.
6. A history of previous suicidal attempts by the patient or successful suicides carried out by relatives or close associates.
7. The presence of overt suicidal desires, thoughts, or plans on the patient's part.

If any of these signs are present, the physician should be sure that his patient is placed in a psychiatric hospital where adequate supervision and protection can be given. Obviously, this type treatment will require a combined effort by the non-psychiatric physician and the psychiatrist or specialized treatment by the psychiatrist alone. However, most aged individuals require both psychiatric and medical management. It is desirable for the non-psychiatric physician to be continually involved in the care.

It is not the intention of this discussion to deal with the more specialized techniques of the psychiatrist in treating severe emotional disturbances in the aged. However, emotional problems in the elderly that daily come to the attention of the family physician, internist, surgeon, or other non-psychiatric physicians can be discussed under four major categories:

1. The menopause
2. Involutional reaction
3. Retirement
4. Delirium and the response to surgery.

Menopause

For a woman the menopause is dramatic and clear-cut evidence that she has lost her ability to reproduce, and its significance depends on the relative importance of this ability to her self-esteem. The hormonal changes are opposite of the changes at puberty. The menopause is often accompanied by signs of:

(A) Autonomic imbalance
(B) Hot flushes
(C) Palpitation
(D) Sweating
(E) Attacks of nausea
(F) Emotional instability
(G) Anxiety
(H) Depression
(I) Insomnia

For many years, physicians assumed that these signs and symptoms were solely due to endocrine changes. They consequently treated them exclusively by attempts to supply hormonal deficiencies. In many instances, the results were encouraging. However, careful studies have revealed that the favorable results of endocrine treatment are largely due to the effects of suggestion or to the physician's psychological support of the patient as he takes interest in her symptoms and problems.

Anxiety and depressive reactions certainly are more related to the psychological significance of the menopause than to the physiological changes. Although, estrogen deficiency as a contributing cause to autonomic imbalance should not be disregarded. Maintenance estrogen treatment may delay some of the effects of aging.

The psychological significance of the menopause varies with the individual personality. As mentioned earlier, a great deal will depend upon the successful resolution of various stages of growth and development. A woman's grief for her lost youth will be proportionate to the particular significance youth has for her.

The menopause has particular significance to women who have a strong need to control others. The women in menopause can no longer produce children, and the children she has produced and controlled are growing up and need her less. Most women have a need to be needed, but not all need to control the recipients of their help.

The more mature woman's own sense of security makes it easier to permit the children to grow up and away and, in turn, allows her to shift helping interests to friends and community activities. This type patient makes the menopause an opportunity for further emotional development.

It must be recognized that many women have an exaggerated idea of the extent of menopausal changes as well as changes after a hysterectomy or other pelvic surgery. Many expect a dramatic loss of their feminine attributes and the disappearance of their capacity for sexual response.

The physician who takes the time to help these women express their fears, to answer their questions, and to reassure them can relieve much of this apprehension. The same technique can be used in helping a woman who mistakenly believes that because her mother suffered an involutional depression, it is inevitable she will also become psychotic during her menopause.

Most menopausal emotional disturbances, however, require more extensive psychological support than simple educational reassurance. Many women need an opportunity to express their grief over their lost youth in a setting in which they are neither ridiculed for their concerns nor prematurely reassured.

A *surgical menopause* brought on by a hysterectomy has almost the same psychological significance as a normal menopause. It is more often considered a serious psychological threat to a woman, particularly a young woman. The realization that her child-bearing years have been shortened increases any feelings of inferiority as a woman she may have harbored.

Patients have stated, "I feel empty, useless, unattractive. How can I respond sexually when I am only half a woman." Some women may consciously or unconsciously equate the loss of the reproductive organs with punishment for past sins, particularly sexual sins.

Not all emotional response to surgical menopause can be prevented. The physician, however, has an opportunity to reduce

its impact by affording the patient preoperatively the chance to express her feelings—including any resentment, however unwarranted, at the doctor who is about to remove her reproductive organs.

Involutional Reaction

Women with rigid, compulsive personalities have a very difficult time. They are particularly susceptible to severe depressions, or involutional psychotic reactions.

The reasons for this susceptibility are complex, current thinking usually indicates two major factors:

1. The involutional period signals the *end of major productivity*—literally, with respect to childbearing and also symbolically with respect to other personal accomplishments. Again, if the patient has not attained her goal of personal accomplishment by this time, she is not likely to in the future. Since compulsive personalities set their personal standards high and are particularly critical of themselves as well as others, they are especially depressed by the recognition that the likelihood of future productivity is limited.
2. The second factor concerns aggression. Women with compulsive personalities started at an early age to use reaction formation to keep any evidence of aggression or hostility in check. As a result, she has never learned to distinguish between hostility and less destructive forms of aggression. So much of her ego-strength is devoted to defending herself against her aggression that she lacks enough margin of safety and flexibility to deal with new problems presented by the menopause.

Overwhelmed by the new problems, she is no longer able to contain her aggression by reaction formation. This type individual has avoided rather than mastered aggression. She must call forth all her psychological resources in an effort to establish control and the protective mechanisms which made avoidance possible breaks down. Emotionally, she recapitulates the problem she could not solve as a child, the problem of finding appropriate outlets for aggression.

As the aggression begins to emerge into consciousness, it runs into a road block in the form of her conscience. Her compulsive personality being rigid and punishing turns the mobilized hostility, aggressive impulses back at her so she hates herself instead of others. Hating herself and feeling unloved, she becomes depressed and agitated, subsequently developing the cardinal signs and symptoms of depression. In the advanced stage, she may rationalize the guilt over the unacceptable hostility by insisting that she has committed an unpardonable sin, develop somatic delusions, or false belief that her body has been damaged or destroyed. The ultimate expression of the hostility can be suicide and as mentioned above, the more serious signs require more specialized treatment.

Involutional patients may also project hostility with the consequent development of paranoid symptoms. The patient's hostility is fundamentally still directed against herself, but through the agency of a nonexistent persecutor. These patients seem to have been conditioned in earlier years to project the source of hostility onto others rather than to turn it directly on themselves or work out a satisfactory solution for dealing with the aggression. The paranoid reactions of the involutional period usually require specialized treatment.

Retirement

Involutional reactions occur less frequently in men. Men do not experience the marked or abrupt physiologic change at the menopause. In the absence of an analogous clear-cut termination of reproductive capacity, the dramatic event which gives a man unmistakable evidence that his powers are waning is *retirement*.

The age of retirement is subject to much

more individual variation than the menopause.

1. The professional athlete is an old man at 35.
2. The physician at 35 is just beginning his career.

Therefore, retirement is subject to more modifications by individual choice or external circumstances. Even so, the observed reactions of men to retirement or to the threat of retirement and of women to the menopause have enough in common to justify considering them events of similar psychological significance.

No matter how much economic security a man has in the form of:

1. Pensions
2. Insurance
3. Savings

He still must face retirement with the realization that he is no longer considered as capable as he was and that a younger man is taking his place. Psychologically, retirement represents a reverse adolescence in which the transition is made from independence back to dependence, with a corresponding re-awakening of whatever dependency problems have remained unsolved and repressed.

Overtly dependent personalities, whether men or women, may welcome retirement, since it gives them a rationalization for being dependent.

Others, who are afraid of dependency, may find retirement a serious threat to the security they have built up for themselves by adopting pseudoindependent attitudes in early childhood and maintaining them all their lives. People who have never taken vacations and who do not enjoy days off postpone retirement as long as possible because they feel secure only when on the production line and are lost without their work. These individuals often become depressed and may deteriorate rapidly in their physical and intellectual capacities.

They need help from a physician who understands their problems, one who will not simply recommend unproductive hobbies, but will consistently give them psychological support over the period of time they need to make their adjustment.

Another type of man who finds retirement a particular difficulty is the authoritarian leader who is jealous of his position and sees the accomplishments of his children or his subordinates as threats to his security. He will resist giving up the reins as long as possible. When at last he reluctantly surrenders, he becomes even more destructively critical than before. His boasting and hostile attitudes are often hard to take, but they represent his protection against anxiety, and the doctor usually can tolerate them in divided doses as he helps his patient face and eventually accept his new status.

For some men, anxiety or depression in response to the threat of retirement is expressed in the guise of neurotic symptoms. The specific symptom of a man's hypochondriasis are conversion difficulties and usually indicate the specific areas of his greatest bodily concern. Concern about sexual competence, for example, is frequent among men of retirement age, and the rapid onset of impotency at this time is usually more closely related to psychological factors than endocrine disturbances.

Retirement does not have to be a period of psychological upheaval. Just as women can make the menopause a developmental stage, men who have enough flexibility and reserve adaptive strength can adapt themselves to retirement by developing new interests and relationships, and by obtaining vicarious satisfaction from observing the accomplishments of their children and their former subordinants.

To the individual, the stress of retirement is somewhat related to the significance of his work. If he has thought of his job as drudgery, a necessary evil to be tolerated, he usually will welcome retirement. Studies of men who have retired from relatively

mundane and uninteresting jobs reveal a surprisingly high proportion of contentment among them. Physicians, teachers, executives, and others who have invested more of themselves in their work are more likely to mourn the loss. It is the physician's responsibility to aid these individuals in their grief process.

Delirium and Response to Surgery

As the years go by and the adaptive reserve becomes depleted by changes in the brain, the elderly individual becomes susceptible to sudden deterioration. A fractured hip or a major surgical procedure may be enough to transform rapidly and permanently an apparently well integrated man into a confused and dilapidated senile. Fortunately, this process is not always irreversible. Illness of any kind, particularly when it requires hospitalization or harnesses an already depleted ego with toxins, may cause enough change to overwhelm the individual temporarily and produce delirium. Elderly patients in the hospital are most susceptible to delirium at night. The elderly patient whose perceptive and adaptive mechanisms have become weakened by the threshold of collapse by a combination of toxic effects secondary to his physical illness and the emotional changes of age, is frightened when darkness intensifies the strangeness and unfamiliarity of his environment. He may become panic-stricken and confused, forget where he is, misinterpret or reconstruct his surroundings by means of delusions and hallucinations. As he seeks to reestablish contact with the environment, he tries to eliminate anything that is strange; he pulls out catheters and other attachments and may endanger his life in attempting to find safety.

The prevention and treatment of delirium should not be limited to measures calculated to improve the oxygen supply to the brain or to counteract toxicity, but should include:

1. Specific nursing instruction which emphasizes the importance of reassurance and explanation at the first signs of anxiety.
2. The presence of a night-light may be helpful if it is placed so that it does not merely add frightening shadows.
3. Often the presence at night of an understanding relative or friend will reassure the patient.
4. A warm tub bath may produce relaxation and induce sleep more effectively than sedation for sleepless patients.
5. Sedation adds another element of toxicity and, if it is not sufficient to put the patient to sleep, may frighten him more than it helps him, by further clouding his capacity to evaluate his environment.

The emotional significance that the elderly patient attaches to a surgical procedure may contribute more to his anxiety than the physician realizes. This is particularly true when surgery causes loss of a part of the body which symbolizes femininity or masculinity, such as a breast, uterus, or prostate gland. The elderly widower with prostate difficulty may exasperate the doctor by stalling and postponing surgery in spite of a dangerous degree of urinary retention. His hesitancy may be through fear of the doctor's ridicule, to express his real concern, which frequently is that he will lose his sexual powers. The patient may misunderstand the nature of the operation—physicians are so accustomed to anatomic understanding that we sometimes fail to realize that even intelligent and well-educated laymen often confuse prostatectomy and castration—or he may have the misconception, among elderly men that prostatectomy inevitably causes impotency. Frequently, this misconception is fostered by the rationalization of many of his acquaintances. For instance, men whose sexual powers have already waned to vanishing point, often use the prostatectomy as an external justification in protecting his self-esteem from recognition of his weakness. He thus says to himself and

perhaps to his friends: "If it were not for the surgery, I would be as good a man as ever."

General Treatment Principles

In each of the categories discussed there is the common element of loss. The physician cannot alter the facts of reality; loss has occurred in one or several categories. It becomes necessary for the physician to help the patient recognize the inescapable truth of his situation: whether this loss be of intellectual capacity, loss of physical ability, loss of friends, loss of family, or whatever. Once having accomplished this recognition, the physician must work to help the patient find a better way of satisfying his need, in accordance with the reality which has been clarified. The extent of the behavioral change may be great or small, and the difficulty of treatment will vary accordingly. In some instances, adaptation may be virtually spontaneous, if symptoms are relieved. In other instances, months of continual work will be required. In all cases, however, the new adaptation must be sufficiently good to prevent recurrence. The majority of patients with emotional problems associated with aging have well organized personality structures and in many instances have relatively good insight into their own needs and desires, but by tradition and previous modes of adapting hang on to the excessively rigid patterns of living. As a consequence, these people are unable to adapt to new situations and become ill. It is the job of the physician to speed the process of recovery and adaptation as much as possible and to help re-orient the patient's life in the healthiest possible fashion.

In carrying out the prescribed therapeutic program, much help can be received from a variety of somatic treatments.

1. *Antidepressive drugs* can be useful adjuncts in the treatment of these individuals. They can be administered at any time during the course of the illness, but it is necessary that the patient be able to achieve a re-adjustment of his life orientation before the medications are terminated. These drugs work slowly, and in some cases with serious suicidal risk the use of antidepressant drugs should not be substituted for immediate hospitalization or even the utilization of electroconvulsive therapy under the supervision of a psychiatrist.
2. *Phenothiazines.* In many individuals suffering with depression of old age it is not uncommon to find marked hostility and resentment as pertinent factors in the illness. With the recognition of marked hostility, it is wise to use Phenothiazine derivatives, such as Chlorpromazine in doses of 300 to 500 mgm per day and to continue exploring the life adjustment pattern of the patient while he is on medication. In many instances with marked depression and recognizable hostility, it is advisable to use a combination of Phenothiazine drugs and antidepressive medications.
3. *Sedation.* Barbiturate sedation is frequently helpful in dealing with patients with milder depressions. This is particularly true if there are no signs of marked organic brain disease. For patients in the early or late sixties who show mild agitation, doses of barbital in the range of 150 mgm. three to four times a day will frequently diminish the agitation and make the patient's life less full of suffering. Barbiturate sedation is not very effective in the treatment of patients with paranoid tendencies or with very severe depressions. Retarded depressions are usually made worse by the administration of barbiturate sedation.
4. *Hypnosis.* Night-time sedation is of great value in the treatment of patients who have depressions. Since the major problem for most patients with depression is early morning awakening, to

which may be added difficulty in going to sleep in the case of agitated depressions, the optimum medication for such persons is a combined dosage. This involves the oral administration of 300 mgm. Sodium Amytal and 200 mgm Barbital at bedtime. Such a dosage will provide seven or eight hours of continuous, dream-free sleep.

5. *Electroconvulsive treatment* is a very useful adjunct to the serious depressions but should be administered only under the supervision of the psychiatrist.

Summary

In summary, patients with relatively intact personality organization who develop depressions resulting from the need to alter behavioral patterns can very effectively be treated by the non-psychiatric physician.

Depressions resulting from distorted personality structures, such as manic depressive illnesses are much more complicated and should be referred to a psychiatrist for specialized treatment. Another variation is the depression resulting from chronic psychoneurotic disabilities. These individuals, who have lived a life with severe limitations of a psychoneurotic type, for similar reasons develop difficulty in adjusting to the changes in old age. Here the physician must not only deal with the depression per se, but must also offer some relief for the psychoneurotic disturbances. Usually, this type patient requires specialized treatment.

A vast number of emotional disturbances associated with aging can be adequately treated by non-psychiatric physicians. It is of utmost importance to evaluate the suicidal risk in each patient and also determine the particular personality strengths and liabilities before deciding whether the patient should be treated with specialized techniques or handled in the daily practice of medicine by the non-psychiatric physician.

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Monthly Report of Bureau of Communicable Disease Control

	Feb.	Feb.	Jan.-Feb.	Jan.-Feb.
Brucellosis	0	0	2	0
Diphtheria	0	0	0	0
Hepatitis	19	34	39	78
Meningitis (Aseptic)	1	0	2	0
Meningococcal Infections	13	6	20	12
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	0	0	0	1
Rubella	31	85	39	105
Rubeola	100	39	163	58
Streptococcal Sore Throat including Scarlet Fever	1574	1543	2596	3110
Tularemia	0	0	0	0
Typhoid	0	1	0	1
Rabies (in animals)	80	19	127	36
Venereal Disease				
Syphilis	139	153	226	269
Gonorrhea	1007	823	1871	1558
Other	2	1	3	1

Microsurgery of Otosclerosis

Prefabricated Wire-Gelfoam Prosthesis

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Improved techniques and instruments have been developed over the years which have made possible the good results now seen in surgery of otosclerosis. The prefabricated wire-Gelfoam prosthesis is a recent development and its advantages are discussed.

IN THIS PAPER the history of otosclerosis is summarized. My experience and those of others using various stapedectomy techniques are discussed. The development of the wire-Gelfoam prosthesis and the rationale for its use are reviewed. A technique of stapedectomy using the prefabricated wire-Gelfoam prosthesis is described and the results and advantages outlined.

Otosclerosis is the most frequent cause of fixation of the stapedial footplate. Histological studies have shown that in middle age a focus of otosclerotic bone is present in one out of eight white women and one out of fifteen white men. However, for every eight patients with histological evidence of otosclerosis only one has clinical evidence of fixation of the footplate.[7] The disease is uncommon in the Negro and Asian races. Increasing fixation of the stapedial footplate causes a progressive conductive loss of hearing.

President's Address given before the Virginia Society of Ophthalmology and Otolaryngology at Virginia Beach, May 2, 1968.

One of the most fascinating developments in medicine in recent years has been the evolution of microsurgical procedures now being carried out on the human ear. One must recognize that the renaissance in otological surgery is primarily related to the development of the operating binocular microscope. With this instrument, the otologist can work in a brightly lighted field at magnifications up to 40 times. This is an essential tool as the area of the oval window is only about three square millimeters.

History

In 1876 Kessel courageously attempted to mobilize and three years later to extract the stapes.[17] Toward the end of the nineteenth century pioneers, such as Boucheron, Miot, Jack and many others, performed transtympanic mobilization or removal of the stapes. Lacking adequate illumination, magnification, or antibiotics, these procedures must have been quite difficult for the surgeon and hazardous for the patient. The procedures were complicated by labryinthitis and meningitis, and eventually both operations fell into disrepute and were abandoned.

Once again interest was aroused when Jenkins in 1913 described a method for bypassing the middle ear by means of an opening made into the lateral semicircular canal.[15] During the ensuing years, many modifications of this procedure were developed in an attempt to prevent closure of the fenestra and onset of infection as well as to improve the conduction of sound to the inner ear.

One of the great advances in otosclerotic surgery occurred in 1938, when Lempert introduced the open one-stage fenestra-

tion.[20] The operation was reasonably successful in restoring hearing, but complete closure of the air-bone gap was not physiologically possible. The principle disadvantages of the operation were the creation of a mastoid cavity resulting in chronic otorrhea in 13% of cases, occasionally troublesome post-operative vertigo, and closure of the fenestra within the first few months following surgery.[1] Nevertheless, it was universally adopted as the operation of choice for the surgical relief of otosclerosis for a number of years.

In 1953, Rosen resurrected the mobilization operation.[27] If successful, the patient had an intact functioning ossicular chain and near normal hearing and the troublesome "wet" mastoid cavity was avoided. There were few complications from this procedure, but regrettably few successes. In 1961, Bellucci in examining five year results found only 12% of patients with serviceable hearing.[4] This procedure stimulated a great deal of interest in middle ear surgery and there emerged a new generation of otologists well trained in the techniques of microsurgery.

Many modifications of Rosen's operation were reported in the literature, such as anterior crurotomy by Fowler in 1956, and fenestration of the oval window by Rosen in 1957.[6,26] Juers, Hough, Bellucci and many others developed procedures for partial stapedectomy and prosthetic reconstruction.[4,5,10,16] These latter procedures were difficult to do, the results were unpredictable and average results showed incomplete closure of the air-bone gap.[5]

In 1958, Shea pioneered the more radical total stapedectomy, utilizing the same approach to the middle ear as developed by Rosen, but replacing the stapes by a vein graft-polyethylene strut prosthesis.[32] The results from this procedure have been remarkably good and lasting. The current trend is towards stapedectomy by the Shea technique with the use of varying types of prostheses.

Development of the Wire-Gelfoam* Prosthesis

Schuknecht and Kos pioneered the use of wire prostheses.[18,19,30] Schuknecht first described a technique where the superstructure of the stapes was removed and a wire attached to the incus and placed against a mobilized footplate.[30] Later, he devised a technique in which he removed the superstructure and footplate.[31] A wire prosthesis which was secured around the incus and tied to a fat graft was placed in the oval window. Kos devised a similar wire prosthesis, but used a vein plug instead of fat.[18,19] House developed a stapedectomy technique, utilizing a prefabricated wire prosthesis inserted on a compressed Gelfoam pad.[14]

Convinced that Gelfoam was less irritating to the inner ear than viable tissue grafts, Schuknecht abandoned the wire-fat technique, and began using a Gelfoam-wire prosthesis, which has at one end a loop for the attachment to the incus and at the other a piece of dry Gelfoam.[28] The prosthesis used in this series of cases is an improved modification of the Schuknecht Gelfoam-wire insert as devised by Armstrong.**[3]

Problems with Various Stapedectomy Techniques and Prostheses

Stapedectomy using the Shea vein graft-polyethylene strut technique proved to be a highly successful procedure in a majority of my patients. Although the results were generally good, there was noted in many patients a sensori-neural loss of hearing in the high tones. I have experienced only one slipped strut and no cases of incus necrosis.

Strut Problems

Hough states that the inadequate fit with the lenticular process and the frequent dis-

*Registered Trademark of the Upjohn Company.

**This prosthesis is available from Richards Manufacturing Company, Memphis, Tennessee.

placement is one major reason that the polyethylene tube has been abandoned.[12] Steffen reports a two to three per cent incidence of slipped struts using this prosthesis.[34] Myers gave up the use of the strut since it was difficult to handle and because of the development of necrosis of the tip of the incus.[24] House reports frequent displacement of the strut from delayed incus necrosis.[13] In cases with a short or long incus, the angle of the strut was not conducive to good oval window contact. Also, in narrow oval-window niche cases, it was often necessary to drill the otosclerotic overhang in order to introduce the strut.[13]

Complications resulting from the sharp-ended polyethylene tube have been described. Late post-operative fistulas have been observed.[12] Delayed slippage of the strut into the vestibule with vertigo and or sensori-neural loss occasionally develops, especially on altitude changes.[13,21] Sheehy has reported dead ears from this complication.[33]

Another problem is the use of a strut that is too short. In revisions of cases in which the initial hearing gain had been lost, Sheehy found short struts in a number of cases.[33] There have been reported instances where the strut had been pulled to the edge of the oval window with resultant immobility.[22]

Tissue Grafts

Hough states that, other than surgical trauma, he believes that tissue grafts have produced a major portion of cochlear losses following total stapedectomy.[12] For this reason Shea abandoned the vein graft technique in 1962.[11] House reports that histologic study of specimens from their temporal bone bank reveal that vein and fat are largely replaced by fibrous tissue in the human. Some tissue necrosis and attendant foreign protein reaction occur during this process of transition. The graft produces a histochemical crisis over the labyrinth and the healing is unduly delayed.[13] Lindsay states that vein, fat and connective tissue have been suspected of causing an irritative reaction in the inner ear and have therefore lost favor.[21]

Stapedectomy using the wire-fat technique has fallen into disfavor mainly because of the higher incidence of inner ear damage. In 1962, Schuknecht reported 2.66% profound cochlear losses following stapedectomy using this method and for this reason abandoned the use of fat.[12,29]

McGee reported three cases where the wire prosthesis became detached from the oval window area from either absorption of the soft tissue graft or from retraction of the graft away from the wire.[31]

Teflon and Stainless Steel Pistons

My results have been disappointing in the use of the teflon and stainless steel pistons in routine stapedectomy cases. There is no problem with the teflon piston (Shea) becoming detached from the incus; however, I have had cases where the piston was extruded and was not fixed in the area of the oval window. Likewise, the steel piston (McGee) tended to be extruded and with this outward pressure against the incus, the wire became detached. Guilford has described this extrusive force which tends to push the prosthesis against the undersurface of the incus when the piston extends into the vestibule.[8] In my opinion, the piston should be limited to obliterative otosclerosis and otosclerosis with a very narrow oval window niche. The piston of choice is the Robinson stainless steel stapes, as it rarely becomes detached from the incus.[23,25]

House Prefabricated Wire Loop-Gelfoam Stapedectomy

My results with the House wire and compressed Gelfoam technique were quite satisfactory. As with the vein graft, I encountered some difficulty in positioning the Gelfoam properly over the oval window. There was always uncertainty as to whether the wire was properly centered and I was concerned lest there result a peripheral displacement of the wire. The wire prosthesis was

frequently bent when forcing it against the Gelfoam into the area of the oval window. These minor technical difficulties resulted in loss of time and additional trauma to the oval window area.

Rationale for the Use of Armstrong Modification of the Schuknecht Gelfoam-Wire Prosthesis

Stainless steel 316 wire has been found to provide a corrosion-resistant surface of the highest order.[29] Schuknecht has demonstrated in animals as well as in humans that it is satisfactory for use in the ear as a prosthesis, and Anthony has shown in human experiments that it provokes no significant microscopic reaction in tissues.[2,30]

In animal experiments using Gelfoam over the oval window, a membrane forms rapidly which is covered by mucosa on the middle ear side and a layer of endothelial-like cells on the vestibular side.[9] The new membrane that forms in the human closely resembles the thickness of the normal annular ligament.[13] (Fig. 3) The oval window closes with minimal fibrotic mass, which seems to increase the incidence of air-bone gap closure in both low and high frequencies, and the membrane which forms provides adequate protection without fistulization.[14]

The wire prosthesis can be attached to the incus quite securely and there is very little chance of slippage. The incus has shown good tolerance for wire and there is very little chance of incus necrosis.[8] The wire becomes incorporated in the oval window membrane and is tolerated better than those prostheses which protrude into the vestibule.[8]

The Armstrong prosthesis has several improvements over the Schuknecht Gelfoam-wire prosthesis.[3] (Fig. 1) The loop includes enough wire to completely encircle the long process of the incus and an angled extension serves as a guide to facilitate introduction over the incus. A notch is provided to accommodate the tip of the crimper. The Gelfoam is tapered to tightly seal the oval window. It is compressed to reduce size. The latter insures that the knot will be aligned with the long axis of the oval window and affords better visibility during introduction. When the Gelfoam comes in contact with the perilymph, it expands to fill the oval window. (Fig. 2)

Outline of Technique Used in Last 26 Cases

Anesthesia consists of infiltration of 2% xylocaine and epinephrine into the external ear canal. The Zeiss operating microscope, Farrior speculum, and the Shea speculum holder are used throughout the procedure to obtain adequate exposure and visualization.

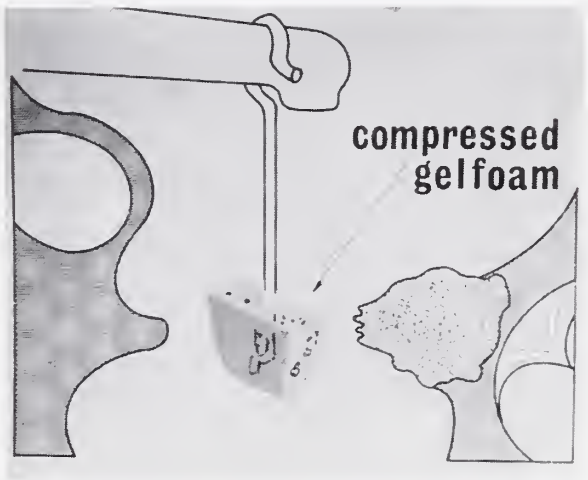


Fig. 1. The prosthesis is inserted so that the Gelfoam plug is in the oval window and the loop positioned and crimped on the long process of the incus.

The usual transmeatal flap is created to expose the middle ear postero-superiorly. The chorda tympani nerve is identified and severed if it prevents adequate visualization of the middle ear space. Enough posterior bony canal wall overhang is removed to give good access to the long process of the incus, the stapedius tendon and the stapes. The two instruments which I have found to be most useful for this purpose are the House curette and the Hermann chisel.

The round window is inspected and the stapes gently palpated to determine the degree of fixation. The stapedial tendon is

clipped and the incudostapedial joint carefully divided. The superstructure of the stapes is then dislocated inferiorly on to the promontory and removed. On several patients using this maneuver, I have removed the stapes in toto. However, in most cases the crura fracture near the footplate.

The mucoperiosteum overlying the footplate is carefully removed to the edges of the annular ligament. With a hand drill (Buckingham, medium) a small hole is made in the center of the footplate and with small anterior and posterior Schutnecht picks, the footplate is removed. If at this stage, the

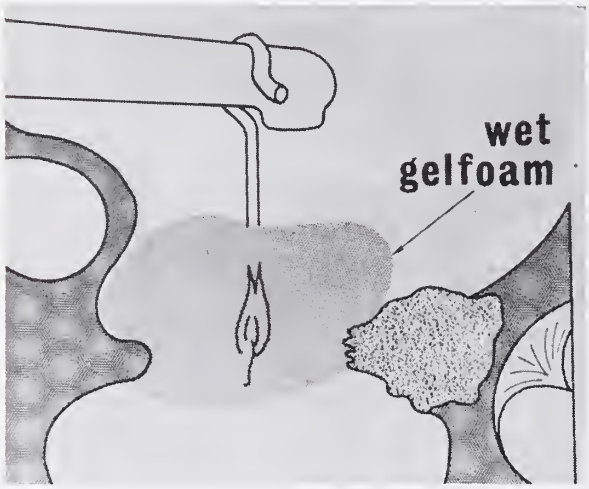


Fig. 2. With the absorption of perilymph and tissue fluids the Gelfoam swells and fills the oval window.

removal of blood from the area of the oval window is necessary, only very gentle suction is employed using the 20 gauge Rosen suction tube with a cut-off adapter. The electric drill is not used to thin the footplate, although it is available in case a "drillout" is necessary for obliterative otosclerosis.

The Armstrong modification of the Schuknecht Gelfoam-wire prosthesis has been used in this series of cases. It consists of a metal prosthesis of SMO 316 stainless steel, having at one end a loop for the attachment of the incus, and, at the other, a piece of dry, compressed Gelfoam. The diameter of the prosthesis is 0.005 inches, and the shaft is made in varying lengths of 3.5 mm. to 6.5 mm.

Using the measuring rod, the distance between the long process of the incus and the oval window is measured. To this distance is added 0.5 mm. to allow for shortening of the wire due to crimping, for the thickness of the footplate and to allow the loop to protrude slightly beyond the annulus of the oval window. The proper length prosthesis is removed from a sterile package and the Gelfoam is grasped in the tips of the gloved thumb and forefinger. The loop of the prosthesis is grasped with a delicate non-serrated alligator forceps and the insert is introduced by placing the Gelfoam plug into the oval window and the loop of the

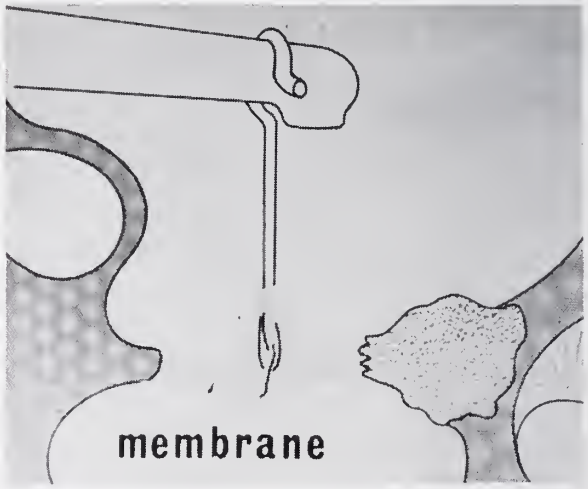


Fig. 3. The prosthesis is incorporated in a new membrane which closely resembles the normal annular ligament.

prosthesis on the long process of the incus. (Fig. 1) With the absorption of perilymph and tissue fluids the Gelfoam swells and fills the oval window. (Fig. 2) The loop of the prosthesis is positioned and crimped on the long process of the incus. The instrument which I have found to be most satisfactory for this maneuver is the Francis & Gray wire crimper forceps with the lower jaw moveable.

Finally, the skin flap is replaced and pledgets of compressed Gelfoam are placed over the incision. A small piece of cotton covered with neosporin ointment is placed in the external ear canal. An eye-patch is placed over the ear to absorb any bloody drainage and a two-inch Kling head bandage is used to hold this in position.

The Study

This report consists of 26 stapedectomies done between 1965 and 1967 on a total of 23 patients. The follow-up examinations are from six to 30 months. Air and bone conduction levels were determined by averaging the decibel losses for 500, 1,000 and 2,000 cycles per second.

Shambaugh's guide was used to classify the ears before stapedectomy according to the average loss of bone conduction in decibels for the tones 500, 1,000 and 2,000 cycles per second (group A, 0 to 15 decibels; B, 16 to 25 decibels; C, 26 to 45 decibels; and D, >35 decibels). Group C was the largest group, and Group D was the smallest. (Table 1).

TABLE 1

CLASSIFICATION OF BONE CONDUCTION LOSS

SHAMBAUGH'S GROUP (loss of db.)	Number	%
A (0 to 15 db.)	6	23
B (16 to 25 db.)	8	31
C (26 to 35 db.)	9	35
D (35 db.)	3	11

Results

The hearing results were analyzed from several different aspects. (Table 2) In 24 operated ears, there was a closure to 10 decibels or less in the air-bone gap. This represents 92% of the total number of cases. In 23 operated ears, or 88%, the critical level of 30 decibels was reached. The air-bone gap was completely closed or overclosed in 13 ears, or 50%. In two cases, no improvement resulted. There were no dead ears in the series.

TABLE 2

RESULTS OF AUDIOMETRIC TESTS AFTER STAPEDECTOMY

Ears Operated	26
Air-bone Gap Closure ± 10 db.	24 (92%)
Level of 30 db. reached	23 (88%)
Complete Air-bone Gap Closure	13 (50%)
No Improvement	2 (8%)
Dead ears	0

Ears Showing No Improvement in Hearing

In the two operated ears in which there was no improvement, a so-called mechanical failure was suspected, as the postoperative audiograms were essentially the same as the pre-operative. One of these ears was re-explored and a revision is planned on the second one. In the former, there were marked adhesions in the middle ear which had resulted from a post-operative infection. The drum was adherent to the incus and the adhesions had completely immobilized the prosthesis. All adhesions were removed and the patient maintained on steroids and antibiotics for several weeks. There resulted a significant hearing improvement with closure of the air-bone gap.

Miscellaneous Data

There were 14 females (64%) and 8 males (36%) in this series. The chorda tympani nerve was sacrificed in seven ears (27%). Drum perforations resulted in four ears (15%). All of the perforations healed promptly.

TABLE 3

MISCELLANEOUS DATA

Number of operations	26
Number of patients	22
Females	14 (64%)
Males	8 (36%)
Chorda Tympani Nerve Sacrificed	7 (27%)
Perforations	4 (15%)

Comments

The advantages of this stapedectomy prosthesis may be listed as follows:

1. The prosthesis is prefabricated and

comes in sterile packages; thus, it is readily available, free from contamination, and is consistently accurate in size, shape and length.

2. The improved loop is easy to introduce and secures the prosthesis well to the incus.

3. The wire has small mass, which is considered desirable for implanted prostheses.

4. There is less likelihood of host reaction to the stainless steel and the Gelfoam being an inert material has proven to be less irritating to the inner ear than viable tissue grafts.

5. The procedure is simple, less traumatic, and handling of the prosthesis is facilitated by the attached piece of compressed Gelfoam.

6. After absorption, the Gelfoam leaves a thin membrane, which provides less impedance to sound transmission and seems to result in slightly better auditory thresholds, particularly for the high frequencies.

7. The results from stapedectomies using this prosthesis have been good.

Summary

The history of otosclerosis surgery is reviewed and the development and rationale for the use and design of the Armstrong modification of the Schuknecht Gelfoam-wire prosthesis is presented. Problems with various stapedectomy techniques are discussed. The surgical technique of foot-plate surgery using this prosthesis is described and the results and advantages outlined.

Conclusions

The Armstrong modification of the Schuknecht Gelfoam-wire prosthesis has provided excellent results. It enhances operating efficiency and lessens the chance of contamination of the oval window area. The improved loop secures the prosthesis well to the incus and avoids incus necrosis.

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How to Get Paid for Treating Military Patients

Payment to civilian sources for emergency professional services rendered to military personnel who are on active duty (as contrasted to retired, or inactive members of the National Guard or Reserve) is the responsibility of the Surgeon of the geographical area in which such services are provided. Collection cannot be made from the Office for the Civilian Health and Medical Program for the Uniformed Services (OCHAMPUS), Denver, Colo., or its fiscal agents, who are responsible only for the payment of medical care rendered to authorized dependents and retired military personnel.

When a patient is identified as an Army member, on active duty, notification should be made immediately by telephone to the appropriate Army headquarters, reporting where the individual is and the nature of the treatment required. The cost of the telephone call will be reimbursed with the other charges.

The Army headquarters will advise the caller about the administrative management of the patient, and how to submit the bills for service. Contact for Virginia is Commanding General, First United States Army, Att'n: Surgeon, Fort George G. Meade, Md. 20755.

Tympanoplasty, Type IV and Type V

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The use of a prosthesis in type IV and type V tympanoplasty is described. Beneficial results were obtained in 22 operations.

IN USING THE TERMS TYMPANOPLASTY type IV and type V, I do so only to focus our attention on the present discussion with familiar terminology. It has been evident for several years that Wullstein's[1] classification of tympanoplasties into five categories does not adequately describe the present variations and scope of otological procedures.

Wullstein's type IV tympanoplasty procedure is when a middle ear space was constructed leaving the mobile footplate exposed directly to the sound waves and protecting the round window from the same sound waves. This operation was based on the physiological principle that a time and phase difference of the sound wave hitting the oval and round window is necessary for mobilization of the perilymphatic fluid.

Besides the technical difficulties in creating and maintaining this type of tympanoplasty, the end result of improved hearing left much to be desired. In trying to improve these results in type IV tympanoplastics, Wullstein reported the use of an oval ring made of "polavit", fitting in the oval window niche between the mobile footplate and the tympanic graft. Since then, several techniques using various prostheses have been introduced and reported in the otological literature.

Shambaugh[2] and Guilford[3] reported improved hearing results with the use of a flared polyethylene prosthesis between the new ear drum and mobile footplate. Hayden[4] devised a "crossbar prosthesis", i.e., a flared #90 polyethylene strut supported by having it go through a #205 polyethylene stabilizer. These and several other columellar type struts have given uniformly poor results because of displacement and extrusion and are not recommended today.

The utilization of a bone graft between the footplate and the tympanic membrane graft has improved the overall results. However, when the oval window niche is narrow and deep, or a prominent facial nerve is too close, or the footplate is immobile, I have found it best not to use a bony columella. The bony strut has a tendency for fixation in the above situation and it is not satisfactory to use where an immobile footplate is present. For the past two years, I have been using the following techniques of reconstruction of the sound conducting mechanism in tympanoplasty type IV situations where I felt that the bony columella would be inadequate.

A Sheehy prefabricated wire strut 5½mm to 6¼mm long is fastened securely around the middle of a suitable remnant of the malleus or incus (patient's or homograft) or the stem of a teflon prosthesis. (The stem of a shortened teflon stapes-incus prosthesis has proved to be just as satisfactory for attachment of the wire as a bony support and has shown no tendency to extrude.) The tympanic membrane graft of temporal fascia is then placed in its proper position over a bed of small pledgets of gelfoam soaked in Cortisporin. When the posterior bony wall has been preserved, the graft is carried up on the wall preserving the middle ear space. If the meatal skin has been removed, it is

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replaced on the anterior wall partially covering the anterior portion of the fascia. The fascia and skin are then snugly secured by careful placement of gelfoam wedges. If the posterior bony wall was removed, the fascia graft is supported by bone chips in the epitympanic area and then tapered over the labyrinthine canals closing the attic. In either case, the graft is reflected back for exposure of the oval window niche and footplate of the stapes. The prosthesis of

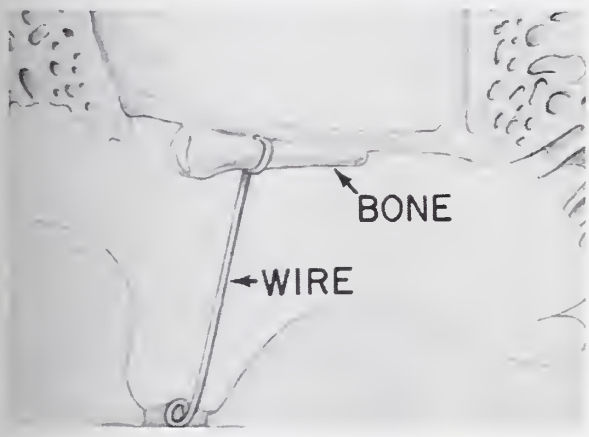


Fig. 1

bone and wire or teflon bar and wire is meticulously placed between the footplate of the stapes and the tympanic graft and supported with gelfoam pledgets. The graft is then replaced and secured with additional gelfoam packing.

Often it is necessary to utilize a teflon mold such as an "Austin mold" to help prevent middle ear adhesions and this is placed in the middle ear along with the prosthesis. Several months later, a secondary tympanotomy is performed for removal of the mold and adjustment of the wire, if necessary. In a few cases, the post-operative hearing has been excellent even with the mold present and the tympanotomy was not carried out.

In similar situations as described above, except for the footplate being immobile, a tympanoplasty, type V (fenestration of the horizontal canal) has given fairly good hearing improvement. However, I have obtained better hearing by preparing the graft, prosthesis, and middle ear as described above and then performing a tympanotomy which included removal of the footplate several months later. The wire was then placed in the oval window and secured with gelfoam.

The above techniques have been utilized for the past two years in twenty-two operations with beneficial results. Twelve cases required a secondary tympanotomy at which time the mold was removed, lysis of any adhesions present and adjustment of the prosthesis was performed. Three patients had the stapes footplate removed and the wire adjusted in the oval window (all with excellent hearing results). Eight others did well without a second procedure. All of the cases have had their hearing improved up to a level of 35 db (ISO) or better except four. Two had uncontrollable adhesions and two had large perforations develop in the graft. Nine cases had a teflon stem used for securing the wire beneath the graft and in the others, six were secured with a homograft and seven with a remnant of their own ossicle. No difference has been noted as to the final hearing result among the three materials used and none have extruded.

Summary

A prosthesis attached to a teflon stem or a bone and placed between the graft and oval window has given good hearing results in both categories of type IV and V tympanoplasties. None of these prostheses have shown any tendency to extrude, the longest one being in place for two years.

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Surgical Problems in Pleural Disease

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Pleural disease can usually be diagnosed accurately by conservative procedures including fluid studies and needle biopsy. Open thoracotomy, however, should be used without hesitation when other procedures are inconclusive.

PLEURAL DISEASE is usually non-surgical and often arises secondarily to another disease process. A pleural effusion represents a pathological condition often demanding prompt management, but pleural thickening alone may represent only the scar of a past insult or it may signal active disease either benign or malignant. Careful clinical judgment combined with appropriate laboratory studies usually results in the correct diagnosis, but occasionally diagnosis and management may tax the resources of even the most experienced physician. In such cases surgical consultation and even exploratory thoracotomy may be required.

We have collected from our practice a series of patients presenting with evidence of rather unusual pleural disease in which surgical consultation was required for diagnosis and management.

Case Reports

Case #1. O.M., a sixty-nine year old housewife, complained of fullness in her chest and dyspnea on exertion for three weeks. Chest x-ray (figure 1) revealed a large right pleural effusion and thoracentesis produced bloody fluid, but no malignant cells. Pleural needle biopsy was negative. On January 5, 1968, a right pleural decortication revealed a malignant mesothelioma. Nitrogen mustard was instilled in the pleural space at the time of surgery and no significant recurrent effusion occurred. She gradually weakened and died two months later at which time autopsy demonstrated metastases to the pericardium, heart, left lung and pleura, and adrenals.



Fig. 1. Case #1. Chest x-ray demonstrating pleural thickening along right thoracic wall with typical scalloped pattern of mesothelioma.

Case #2. D.S., a sixty-eight year old re-

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tired railroad worker, noted right chest pain for several weeks, but no dyspnea on exertion or cough. Evaluation revealed massive right pleural effusion, hepatic enlargement, and clubbing of his fingers and toes. Cytology of pleural fluid, pleural needle biopsy, and liver needle biopsy were all negative. A right pleural decortication on March 7, 1968, revealed a malignant tumor consistent with leiomyosarcoma arising from the pleura. He has done well postoperatively.

Comment: Satisfactory palliation, but only rarely cure, can be obtained by decorticating primary pleural malignancies such as those in case #1 and case #2. Instillation of nitrogen mustard into the pleural space promotes adhesion of lung to chest wall and decreases recurrent effusion from any residual tumor. Pleural effusions are often due to metastatic tumor and may respond equally well to decortication if instillation of nitrogen mustard or radioactive gold[4] into the pleural space is not effective as a preliminary procedure in decreasing effusion. Carcinoma of the breast and lung as well as lymphoma are among the tumors most often involving pleura and causing effusion.[2]

Case #3. G.M., a forty-six year old female, for several months had increasing fatigue and for three weeks complained of night sweats, chronic cough, and hemoptysis. Chest film revealed a loculated pleural effusion, tuberculin skin test was 2+, and bronchoscopy and sputum cultures were negative. Thoracentesis was non-productive and needle biopsy was negative. When the effusion gradually enlarged despite antibiotics and anti-tuberculous drugs, an exploratory thoracotomy was performed on March 19, 1968, which revealed necrotic epidermoid carcinoma of the lung invading ribs. The patient died two months postoperatively.

Comment: Loculated pleural effusions may occur following underlying pulmonary infections, but such effusions should gradually resolve with appropriate therapy. An enlarging effusion, such as that in case #3, is an ominous sign and demands more aggressive diagnostic measures. In the case above no effective therapy was possible, but a progressing empyema may be promptly cured by decortication when more conservative measures have been unsuccessful.[1]

Case #4. S.C., a seventeen year old high school student, had a two month history of intermittent left chest pain with two weeks of low grade fever and fatigue. He denied any cough, but had lost ten pounds. Chest film (figure 2) revealed marked left pleural



Fig. 2. Case #4. Chest x-ray demonstrating marked left pleural thickening with atelectasis of underlying left lower lobe due to tuberculosis of pleura.

thickening and thoracentesis was non-productive. Sputum cultures and gastric aspirations revealed normal flora and skin tuberculin was 2+. On January 18, 1968, left pleural decortication was performed which allowed a markedly atelectatic lower lobe to expand. Pathology examination revealed pleural tuberculosis. He has done well on anti-tuberculous drugs.

Comment: To the older practitioner the diagnosis of tuberculosis in a young person with a positive tuberculin skin test and pleural effusion would be routine. We included the case as a reminder that unsus-

pected tuberculosis is still very much a possibility in the apparently unexposed, healthy young person. One must not be deterred by negative cultures as positive are obtained in only twenty-five percent of tuberculous effusions and only ten to fifteen percent of these patients have positive sputum or gastric washings.[6] While open biopsy and five year follow-up has revealed that up to fifty percent of pleural effusions in tuberculin reactors are associated with only a nonspecific pleural reaction,[3] we feel it is safest to treat all tuberculin reactors with pleural effusions on anti-tuberculous chemotherapy.

Case #5. C.H., a twenty year old hospital cafeteria worker, was found to have a loculated pleural effusion along the lateral right chest wall on a pre-employment chest x-ray. He had recently been playing on a sand lot football team and had noted increasing fatigue with a ten pound weight loss. A thoracentesis revealed 100 ccs. of bloody fluid, but cultures and cytology studies were negative. On December 6, 1966, closed tube thoracostomy for several days produced some bloody fluid, but little diminution of the effusion. Skin tests for TB were negative and careful follow-up revealed complete clearing of the effusion. It is felt that this represented a hemothorax from unremembered trauma, probably football.

Case #6. J.G., a twenty-three year old factory worker, noted left chest pain for two months. A chest x-ray (figure 3) was interpreted as pneumonia with effusion, but no clearing occurred despite hospitalization with intensive antibiotic therapy. When seen in consultation, thoracentesis produced bloody fluid that was negative on culture and cytology. Sputum cultures and skin tests were negative and no history of trauma could be elicited. On November 29, 1967, left thoracotomy revealed thickened, edematous pleura with old blood clots and an atelectatic lower lobe. Pathology examination revealed chronic pleuritis and cultures were negative. It is felt that this represented an old hemopneumothorax. It may have been a sterile empyema with the blood due to trauma from the recent thoracentesis.

Comment: Bloody pleural effusion, in the absence of preceding trauma, suggests



Fig. 3. Case #6. Chest x-ray revealing chronic left pulmonary effusion of two months duration associated with chest pain. Thoracotomy revealed old blood and chronic pleuritis thought to be due to old hemopneumothorax.

malignant disease. Tuberculosis and pulmonary embolism are other causes of sanguineous effusion. In cases #5 and #6, hemothorax may have resulted from either unremembered trauma or perhaps a ruptured bleb on the lung surface. Case #5 was not explored because the bloody effusion progressively cleared. The persistent symptoms in case #6 made exploration mandatory after more conservative measures were unrewarding.

Case #7. R.S., a sixty year old construction foreman, noted increasing fatigue following a URI one year previously. A chest

x-ray revealed a mass in the right lower lobe and bronchoscopy with sputum cultures and skin tests were negative. On September 14, 1966, a right lower lobectomy and decortication of an atelectatic right middle lobe were performed. Dense pleural adhesions were noted. Pathology report was granulomatous disease consistent with sarcoidosis. The right lower lobe mass consisted of granulomatous reaction tenting an adherent diaphragm up into the lung tissue. Postoperatively the patient has continued to have recurrent pleural effusions and slowly progressive dyspnea on exertion despite intensive therapy including steroids.

Case #8. H.G., a sixty-one year old carpenter, felt increasing fatigue and noted nausea for several months. He was hospitalized for complete evaluation and chest x-ray with laminograms revealed a 5 x 2 cm. mass in the lower portion of the left lower lobe which contained no calcium and was felt possibly to be carcinoma. Cultures and skin tests were negative. On March 29, 1968, left exploratory thoracotomy revealed extensive pleural adhesions and a fibrous plaque adherent to the diaphragm and to the lower lobe. Biopsy revealed chronic pleuritis and postoperatively the patient has done well.

Comment: Cases #7 and #8 demonstrate the ability of pleural scarring and reaction to mimic malignant pulmonary disease. Until better diagnostic techniques become available, a certain number of "unnecessary" exploratory thoracotomies will be performed to rule out malignant disease.

Conclusion

Pleural scarring or effusion is most often secondary to another disease process and can usually be managed medically. Good clinical judgment and fluid studies from thoracentesis establish the etiology in the majority of cases. Needle biopsy of the pleura improves diagnostic accuracy and yields adequate specimens in about eighty percent of attempts.[5] The cases which we describe are those in which thoracentesis and needle biopsy were inconclusive and open thoracotomy seemed indicated. In addition to aiding diagnosis, thoracotomy often allowed decortication of the pleura and thus either decreased later pleural effusion or freed up trapped, atelectatic underlying lung. Open thoracotomy remains the definitive method to determine the cause of pleural disease when more conservative means are inconclusive.

FIGURE 4

Surgical Problems in Pleural Disease

	Skin Tests TB	Skin Tests Histo	Needle Biopsy	Effusion	Operation	Diagnosis
69F	neg	neg	neg	bloody	decortication	mesothelioma
46F	pos	neg	neg	.....	biopsy	epidermoid ca
68M	neg	neg	neg	clear	decortication	sarcoma
16M	pos	neg	.....	clear	decortication	TB
20M	neg	neg	neg	bloody	.....	trauma
23M	neg	neg	neg	bloody	decortication	chronic pleuritis
60M	neg	neg	.....	.....	RLL	sarcoidosis
61M	neg	neg	.....	.....	biopsy	chronic pleuritis

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(References continued on page 212)

Health-Accident Insurance Forms and Five Per Cent More Physician Time

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INTERNISTS and general practitioners in particular, and other doctors at one time or another, have been harassed by the forms of the disability insurance sold in this State by small companies. Typically, these forms have about twenty to thirty blanks to be completed, and they must be filled in *weekly*. The companies' lawyers have worded the contract so that the companies cannot be held responsible for a fee for completing these miserable forms, and if the physician charges the patient a fee commensurate with the time required, he would be charging double the amount that the patient received from this type of "insurance protection". It is obvious to the experienced practitioner that these companies are seeking every loophole available to prevent paying the claim, and the weekly form is intended to rupture physician-patient relationships, which it usually does, as another means of allowing them to avoid payment. Many agents will tell the patient that his form was not filled out "accurately", and that the doctor must do it again—and then gives the patient a new one to bring to us to be completed *from the start*.

It is my hope that The Medical Society of Virginia will adopt a policy stating that we will fill out "a form that contains all of the information necessary for legitimate insurance purposes", and nothing more. The Roanoke Academy of Medicine has developed such a form, and with use of it, or a similar one, and with a *definite plan of action*, we should be able to bring these policies (or better still, the companies!) to an end.

However, in reviewing this problem, it was necessary to review other insurance forms, as some physicians (who happen to be employees of insurance companies) stated a preference for the form approved by the AMA-Health Insurance Council's joint committee. I looked over this form, and my initial impression was that if there had been arbitration on this form, the practicing physicians must have lost! In an effort to give the form the benefit of the doubt, I reviewed *Medical Economics* issues on this topic, and gleaned the following information.

Two "recent" forms have been approved by the representatives of the A.M.A. and Health Insurance Council (and the authority of the latter is that about 90 per cent of all commercial claims are accounted for by its member companies). The first of these was in 1955, and a new one was adopted for use in January of 1966. The latter was called "shorter" because the *number* of questions had been reduced from 12 to 9, BUT since several of these questions now had parts A, B, and C, the net result was that 33 items of information were requested instead of the 27 in the 1955 form!! If we counted our ages like this, we could get younger with each passing year! In any event, the author of the article, "It's Still a Costly Headache for M.D.'s" (*Medical Economics*, April 18, 1966) wrote himself a question, "If not standardized, are the new claim forms at least shorter or simpler?"—and then answered it, "Forms are actually getting longer. The New Comb-1 asks for more information than the old Comb-1, and the Health Insurance Council says it cannot be helped. All the questions are necessary, says its expert in forms." Dr. Phillip Lynch of De-

catur, Illinois, disagreed with the "experts", and thought many of the questions (employment-related; the outmoded one about house confinement; when the symptoms started; when the patient first consulted the doctor; whether the patient ever had a similar condition; description of other diseases or infirmities affecting the present condition, etc.) were unnecessary. As a matter of fact, all of these could easily be answered by the patient on *his side* of the insurance blank. Richard J. Eales, assistant director of H. I. C., was quoted as saying the new list of questions was as short as it could be for the job it must do, which was meeting the needs of several hundred insurance companies and their different types of coverage. He apparently overlooks the fact that there are thousands of doctors, thousands of patients, thousands of forms—and the needs of these people warrant some consideration, too.

Reading on further in the same issue, I saw that five county societies, three state societies, the California Society of Internal Medicine, and a number of larger group practices have come up with shorter forms than the AMA-HIC form, and have a system for their use (*Medical Economics*, April 18, 1966, page 85, "Some Local Solutions Seem to Work"):

> Los Angeles County Medical Association has two forms, and state they have had only very rare requests for further information.
>
> The Academy of Medicine of Cincinnati has a brief form requiring the completion of three blanks, plus attaching the doctor's statement, which lists the dates of treatment, etc.
>
> The Arizona Blue Shield plan has a form which requires little write-in.
>
> The Macon County Medical Society, of which Dr. Lynch was insurance chairman, adopted a simpler form, after a cost-analysis revealed that the cost to a seven man group for personnel to complete forms was approximately $28,000 per year, and even with the use of the simpler form, it was about $16,200 per year for the group that was analyzed. The Macon County analysis of claim-payment revealed that there was 6 per cent claim-denial before adoption of the form, and 6 per cent afterwards, so the patients did not lose anything that they were not already losing.

What is the opinion of the insurance companies on this topic? Most seem to recognize that *they* are united, and that physicians *seldom* are, and they take the attitude that the AMA-HIC form is a major conciliation on their part, and that no more will be done. What is the opinion of our physicians who wear two hats—that of a physician, and that of an officer in the insurance company? Predictably, they say that we should continue to use the approved AMA-HIC form for a "few years". When one reviews the time required for "progress" (1955 to 1966—and now the suggestion of a "few more years"), one begins to wonder if the changes are to take place in this generation or the next! Even with the help of various transplants, can we hope to live to see the day of change recommended from "above" at the joint committee, which is apparently dominated by the insurance industry? I am certain that our representatives have been intelligent, good-intentioned men, but with the ability of the HIC Representative to manipulate numbers, we are likely to be filling out six blanks with six subdivisions (total of 36) in another three years. It is my understanding that the physicians have always been beaten back by comments that the health industry was a major factor in maintaining private insurance, and they selected the doctor's Achilles heel with this point—but can anyone *really* believe that they are less interested than we in private health care? Is there anyone who thinks these companies are functioning for the sole purpose of helping the A.M.A. fight socialization of medicine? And, finally, can anyone believe that omission of the trivia of

these questions will influence their ability to survive in business? Not so!!

The Los Angeles County Medical Association has shown that a simple three-line form, accompanied by an itemized statement of the patient's bill, listing services, dates, etc., will suffice. However, a number of insurance companies will "fight" the use of forms other than their own, and this is logical enough—they are interested in saving *their* time, and *their* money, and probably figure doctors have plenty of both. They can do this by harassing the doctor and his aide to send additional information, or by notifying the patient that payment cannot be made till his doctor "cooperates with the honorable request for information, which almost all other doctors in this area provide willingly for *their* patients."

The Academy of Medicine of Cincinnati has the answer to these tactics:

1. Secretaries in doctors' offices are instructed to fill out *only* the Academy of Medicine form, returning it stapled to the form provided by the insurance company.
2. In the event that the Academy form is returned by the insurance company, the physician's office is instructed to refer the form, along with any correspondence, to the Academy office; they are NOT to fill out any more information, but they leave the matter to the Academy's office.

Judging from the experience of the Los Angeles County Medical Association, those of us with equipment which produces copies of statements to attach to the patient's insurance forms have been supplying duplicate information for the companies for a long time, and THIS may be the "breakthrough" to keep everyone happy. We should request physicians not using such equipment to fill out *only* the AMA-HIC form (Comb-1), and insist to the companies that those who provide the information on the patient's statement (copy) will be allowed to complete a much simpler form of approximately three items. While joint action and agreement should make this simple to accomplish, it is of interest that one physician (Dr. Charles Farwell, Wheaton, Maryland) wrote that he has ceased taking assignments, ceased filling out insurance forms, and notified his patients that he would list the diagnosis on their charge slip, and they (with the help of their insurance agent!) should complete the form, and bring it to him for his signature. This avenue should be open to the physician whose medical society is too passive to take action, or continues to wait for improvement to trickle down from somewhere else. On the opposite side of the scale, I have heard from numerous physicians who have become accustomed to filling out both their side of the insurance blank, AND the patient's, too! Whatever we do, we should give these poor souls some assistance and protection by stating that this is illegal!

Once we decide that "something ought to be done", how can we do the most good for the most people—patients, aides, doctors, and, yes, the insurance companies, also? I propose a few changes to help us all:

1. The use of TWO forms (and *only* TWO forms)
   (a) A short form, of about three blanks, and to be accompanied by the copy of the physician's statement for care of the patient. These could be provided by the physician's office, from a supply made available through the state medical society OR the patient could use the *approved* short form of insurance companies which already had a form which complied with it (or changed theirs to meet approval). The Medicare form and the Blue Cross forms, now in use, would qualify and others seeking approval

would be submitted to our Medical Services Committee, with the physicians of the state receiving regular information as to which companies' forms were now approved.

(b) The longer AMA-HIC form, for those physicians not using statements of the type convenient for sending a copy. In instances where the insurance company sends for more information, they would request the information to be included on *this* form, and *they* would be responsible for the fee for its completion.

2. Notify ALL insurance companies serving the area that only this form is official, and only this one will be completed by the physician. Call to their attention that there are advantages for the company, too, in that the responsibility for answering the following questions will be that of the person most involved—the patient. These include:
   (a) The date of onset of illness or injury.
   (b) Whether work-connected?
   (c) Whether similar ones in past?
   (d) Any other insurance companies?
   (e) Whether registered private duty nurse was recommended by doctor? Dates?
   (f) Disability dates, and date returned to work.
3. Have a sequence of completion, which involves the patient completing HIS portion first, bringing to the physician for review, and addition of his assigned information, and forwarding to the company from the physician's office.

The patient would feel constrained to be honest, knowing the doctor will review their statements, and mail the report to the company. This would save the physician time, and put the responsibility for an accurate report on the patient, who is more legally involved than the physician. In this way, the company can have the same information (plus that it usually received from the patient's employer), but provided by the individual who has the most time—the patient. Whereas, he has this form to complete and a personal interest in its accuracy, the physician is overburdened with them, and an accuracy-interest that must decrease proportionately to the increase of the number of the forms.

What if a stalemate still results regarding the forms of some companies, and this is likely, since this would provide some irresponsible companies with an excuse better than their usual one for welshing on claims? Since the patients who are insured by these companies are the ones who can usually least afford any financial loss, our consciences might continue to "push" us into completing the weekly 35-blank variety unless we have a method to provide the victims of these companies with a method to collect their claims, BUT which would result in the companies either changing their routines or ceasing work in the area.

When a company refuses to accept information provided on the local Academy's form, their correspondence and their form would be forwarded to the office of the Chairman of the Insurance Committee (or the Executive Secretary of the Academy of Medicine). A form letter would be sent to the company, and a copy to the patient, stating that "most companies of this area accept the information provided by the Academy's form" (the same deal they have been pulling on us *individually*—only we now give it back to them!). The letter would review the point that the form contains all the information felt to be necessary for legitimate purposes. Finally, it would state that, while the physician was answering *THIS* request for more information, it was done solely on behalf of the patient, and that if the company could not see fit to alter their decision and begin to accept this form,

the doctors of the Academy would be notified as of—(two weeks from date of letter) that they were to provide this service for the patients using this company only for a nominal charge, related to number of blanks to be completed, and the time required for this. In addition, all doctors would be provided with a current list of companies which had not indicated that they would abide by the physician's approved insurance form, and which he might show to patients, post in his office, as he saw fit.

Other measures worthy of consideration might be:

1. An attractive sign to be available for physician's lobbies, stating, "This office has a nominal additional charge for completion of the lengthy forms of some insurance companies, and the office receptionist or bookkeeper can provide you with a list of companies requesting more information than we feel is indicated, or necessary, for legitimate insurance purposes.
2. Common processings by medical society executive secretary of requests for additional information might provide helpful information as to which companies were legitimate, cooperative, etc., and those which were seeking all available means to prevent payment of claims. The latter type of information could be forwarded to state commissions. Sharing the fee for services rendered could help support the position of Executive Secretary, etc.

In summary, we can put forth a little extra effort on this matter for a few weeks or months, with the likely prospect of reaping benefits of time saved for ourselves and our office personnel, and the weeding out of the companies which try to take advantage of both patients and physicians. And, if we can cease being the unpaid secretary-detectives for the insurance companies, we can provide at least 5 per cent more physician time for patient care, and that is much quicker than the medical schools can accelerate. In case anyone has forgotten, there *is* a physician shortage and, as yet, I have not learned of the shortage of insurance companies.

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SURGICAL PROBLEMS IN PLEURAL DISEASE—Harris-DeNiord

(Continued from page 207)

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Clinicopathological Conference . . . .

Abdominal Enlargement in a Very Young Child

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Clinical History

A 17 month old Negro female was admitted to the Medical College of Virginia Hospitals on 7-17-67 because the mother had noted progressive abdominal enlargement during the three weeks prior to admission. The swelling had increased during the last few days. The patient had been eating well and there had been no vomiting, diarrhea, constipation, weight loss or abdominal pain. The child had not been irritable. Review of systems was negative.

The child was the product of a full term, uncomplicated pregnancy and normal delivery. She had had an umibilical hernia since birth but this had not increased in size. Growth and development had been normal.

Past medical history: The patient had been in an automobile accident at age 12 months but examination at that time revealed no injury. Family history revealed a maternal grandmother who was diabetic. No family history of tuberculosis or cancer.

Physical examination: temperature 99°, pulse 120, respiration 15, and blood pressure 140/80. The patient was a well developed, well nourished female child with a markedly protuberant abdomen. She was irritable and difficult to examine. Head was normocephalic. The sclerae were clear. Examination of the eyes, ears, throat and neck were not remarkable. The chest revealed normal respiratory excursions and the lungs were clear to auscultation and percussion. The abdomen was markedly protuberant and tense. A two centimeter umbilical hernia was present which could be reduced easily. The spleen and liver could not be felt but a fluid wave was thought to be present. Abdomen was tympanitic to percussion. Bowel sounds were active. No adenopathy was noted. Neurological examination: deep tendon reflexes were elicited, and there was no rigidity or spasticity. There was no musculoskeletal deformity or atrophy. Rectal examination was normal.

Laboratory data: Urine was clear, yellow and acid with a specific gravity of 1.021. Albumin, sugar and acetone were negative. Microscopic examination of the urine sediment was negative. Hematocrit 34%, hemoglobin 9.5 gm.%, white blood count 7,600/mm^3 with 45% neutrophils, 3% eosinophils, 45% lymphocytes, and 7% monocytes. Platelet count 249,000/mm^3. Prothrombin concentration 70 percent. Fasting blood sugar 74 mg.%, blood-urea-nitrogen 14 mg.%. Alkaline phosphatase 0.8 Bessie Lowry units, total protein 6.8 gm.%. Serum sodium 134 mEq/1, potassium 4.4 mEq/1, chlorides 101 and CO_2 22 mEq/1. Calcium 10.7 mg percent. Bilirubin 0.4 total and 0.05 direct. Amylase 76 Somygi units. Bone marrow aspiration was normal. Supine and upright x-rays of the abdomen were compatible with massive ascites. An intravenous pyelogram was consistent with ascites with a questionable mass on the right. Normal urinary collecting system. Heart,

lungs, and bony thorax were within normal limits. Upper gastrointestinal series was compatible with an annular pancreas of descending duodenum, and massive ascites. A barium enema was normal. A bone survey revealed no metastatic disease. An AU-198 liver scan showed enlargement of the right lobe of the liver with some decreased uptake noted over the inferior portion of the right lobe. No definite cold areas were seen. The liver was described as being unusual in configuration and did not appear to be of normal volume. A paracentesis revealed ascitic fluid with a protein of 6.8 gm. percent and a specific gravity of 1.029. White cell count was 680/mm^3 with 12 percent lymphocytes, 64 percent monocytes, and 24 percent histiocytes. Cytology and culture of the fluid was normal.

On the ninth hospital day a laparotomy was performed.

Clinical Discussion

Dr. L. W. Martin: This is a fascinating case we are to discuss this afternoon. The protocol states that we have a 17-month-old Negro female admitted because the mother noted progressive abdominal enlargement during the three weeks prior to admission. This had increased during the last few days. The patient had been eating well. There was no vomiting, diarrhea, constipation, weight loss or abdominal pain. The child was not irritable. The review of systems was negative. With that paragraph our minds go to many different things. We think of tumors, cysts, congenital anomalies of the bowel such as duplications. We wonder about spinal defects associated with duplication. We wonder about the GU system with big kidneys, or a distended bladder. The other problems one would think of at this point would include various tumors seen in childhood—probably over half of which have no more history than this, a vague history of abdominal enlargement. A good many of them will be picked up on routine examinations especially during the first two years of life.

In our case the child was not irritable according to the protocol, but further down it states that the child was difficult to examine because she was irritable. The child was the product of a full term, uncomplicated pregnancy and normal delivery. She had an umbilical hernia at birth, but this had NOT increased in size. Now, this is a little bit confusing. The abdomen is enlarging, yet the umbilical hernia is not. This makes us think it is an enlarging structure within the abdomen rather than ascites. With ascites accumulation we usually get enlargement of an umbilical hernia. Growth and development had been normal. We get somewhat of a retarded growth pattern in certain chronic, longstanding conditions, chronic bowel obstruction, malabsorption syndrome, cystic fibrosis, duplications, kidney disease with a high BUN.

The past medical history: The patient had been in an automobile accident at the age of 12 months but the examination at that time revealed no injury. An abdominal mass and a past history of an injury to the abdomen makes us think of traumatic injury to the ureter with the formation of a pseudocyst, a ruptured kidney with extravasation of urine and a tremendous pseudocyst of the pancreas with tenacles stretching out through the peritoneal cavity. These are the more common conditions to think of following trauma.

There is a possibility that the mass could be related to the accident and I think we must keep this in the back of our minds as we go on further through the protocol. The family history revealed a maternal grandmother who was diabetic. I can't tie diabetes in with this problem at all. There was no family history of tuberculosis or cancer. Could this be tuberculous peritonitis? Well there is a possibility. It could be, and everything else could go along with tuberculous peritonitis. The temperature was 99°, pulse 120, respirations 15, blood pressure

140/80. The blood pressure is a little high but it stated that the patient was excitable. She was well developed and well nourished female child with a remarkable protuberant abdomen. She was very irritable and difficult to examine. The head was normocephalic. The sclerae were clear. Why would this be mentioned? In an abdominal mass we might think of liver enlargement due to tumor or cyst. With all these one might expect to have jaundice of the sclerae. Intermittent jaundice would occur if this were a choledocal cyst. Examination of eyes, ears, nose, neck and throat were not remarkable. The chest revealed normal respiratory excursions. The lungs were clear to auscultation and percussion. The abdomen was markedly protuberant and tense. A 2 cm. umbilical hernia was present which could be reduced easily. The spleen and liver could not be felt. A fluid wave was felt to be present. The abdomen was tympanetic to percussion. She had marked abdominal distention with a tremendously tense abdomen but was tympanetic to percussion. I suppose this means she is lying on her back with someone percussing her abdomen and the intestines are floating on top. This could be a retroperitoneal mass, tumor or cyst pushing things forward, or ascites with the intestines just floating on top of the fluid. Bowel sounds were active. No adenopathy was noted. Neurologic examination: the deep tendon reflexes were elicited and there was no rigidity or spasticity. There was no musculoskeletal deformity or atrophy. Rectal examination was normal. This is disturbing because if a mass is large enough to give this much abdominal distention, you'd expect to be able to feel it on rectal examination. Cystic masses though you would not be able to palpate. In a 17-month-old child, moderate liver enlargement can be palpated on rectal examination. We should be able to feel certain types of cysts such as a duplication.

Laboratory data: Urine was clear, yellow and acid with 1.021 specific gravity. Albumin, sugar and acetone were negative. Microscopic examination of the urine sediment was negative. This certainly does not rule out a renal lesion. I have seen far advanced hydronephrosis, cystic kidneys, unilateral cystic kidneys, tumors of the kidney all with a negative urinalysis. In Wilm's tumors, we like to have a negative urine, because hematuria is a late sign in a Wilm's tumor. We haven't ruled out a Wilm's tumor yet. The hematocrit was 53 and hemoglobin 19.5 gm%.

White blood count was 7,600 which is normal with 45% neutrophils, 3% eosinophils, 45% lymphocytes, and 7% monocytes. A parasitic cyst would have more eosinophils than that. Platelet count was 249,000. We do not have evidence for a platelet trapping hemangioma or cystic lymphangioma as the etiology of the mass. White blood count being normal probably rules out any pyrogenic type of lesion. Prothrombin concentration is 70%. I don't think that rules out the liver as etiologic factor. I know we have to have rather far-advanced liver disease before prothrombin times begin to fall very significantly. Fasting blood sugar 75 mg%. BUN 14. If the kidneys are involved there should be only one of them affected. Alkaline phosphotase 0.8, total protein 6.8 gms, serum sodium 134 mEq/1, potassium 4.4, chlorides 101, CO_2 22, calcium 10.7 mg%, bilirubin .4 total and 0.5 direct. Amylase of 76 Somygi units. The amylase is normal. I find something related to pancreas all along. Bone marrow was normal. Supine and upright x-rays of the abdomen were compatible with massive ascites. There was a questionable mass on the right, normal urinary collecting system. Heart, lungs and bony thorax were within normal limits. Upper gastrointestinal series was compatible with an annular pancreas of the descending duodenum and massive ascites. Many things come to mind at this point. If we have massive ascites and the heart and lungs are clear, I think that is significant. Ascites with pleural effusion would make one think of

constrictive pericarditis, but with the lungs normal, this is immediately ruled out.

We've had nothing in the history to suggest preceding trouble with annual pancreas. No vomiting or eating problems. I would like the radiologist to review the films at this point.

Dr. M. Pinson Neal: The annular pancreas can be ruled out. A bone survey failed to show any evidence of metastatic disease. The chest film showed gas-containing bowel and somewhat elevated diaphragmatic domes consistent with a protuberant abdomen. There is no evidence of pleural effusion, or pericardial effusion and aside from the ramification from below the diaphragm the chest is well within normal limits. A density representing the umbilical hernia is seen over-



Fig. 1. Abdominal film showing homogeneous density throughout.

lying the abdomen. There is a homogeneous ground-glass density in both sides of the flank (Fig. 1). The flanks are bulging. The bowel is floating anteriorly because it has blurred the outline of the spleen, obliterated the liver margin, the psoas shadows and the renal margins. A film the same day but a little later shows more gas in the abdomen floating high upon what appears to have the configuration of ascites and again obliterating all the structures within the abdomen. The question of a right upper quadrant mass was raised on the basis of the density. Comparing the density on both sides of the abdomen there is no identifiable mass per se. The six minute film of the pyelogram shows the contrast material bilaterally indicating normal collecting systems, though again, the density is such as to have obliterated the renal shadows. A 15 minute film of the pyelogram shows the contrast material within the bladder, and some remaining in the two collecting systems. A lateral film at the time of the pyelogram shows the contrast material in the pelvis and collecting systems and again the tremendous homogeneous density of the fluid with the gas well-defined in the stomach, small bowel and in the colon as it is surrounded by the fluid. Two films of the upper gastrointestinal series again show the barium very well in the duodenum. I think this negates any serious consideration of annular pancreas.

Dr. Martin: In reading over the protocol, I was inclined to consider the various cystic structures such as a pseudocyst of the pancreas or cystic involvement of the liver. I think the x-rays about rule them out. We do not apparently have a retroperitoneal cystic mass. The evidence points to an accumulation of ascitic fluid within the abdomen which is very confusing in the light of the rest of the protocol. The barium enema was normal. A bone survey showed no metastatic disease. A liver scan was normal.

A paracentesis revealed ascitic fluid with a protein of 6.8 gm%. A protein of that level should make one start thinking of having gotten the fluid from a cyst of some kind. Ascitic fluid should not have a protein of 6.8. It should be more in the neighbor-

hood of something like 2.0 gm%. The fluid was straw-colored and there was a white count of 680/mm^3 with 12% lymphocytes, 64% monocytes and 24% histiocytes.

I thought first of a cyst of some kind from these findings. I was relatively certain of a pseudocyst of the pancreas but in looking at the x-rays it certainly doesn't seem possible. There is no retroperitoneal mass. The bowels are floating up anteriorly. There is a lot of fluid anterior to the bowel which makes a cystic mass unlikely. The specific gravity was 1.029 and with this type of fluid, I think we have ruled out cardiac failure, cirrhosis or nephrosis. We have talked about producing the type of fluid that has a low protein now we must think in terms of exudative fluid as accumulated in a cyst of some kind. The last thing on the protocol is a tuberculin test of 1:1000 which was negative. Is this the most significant fact in the protocol? I keep coming back to tuberculous peritonitis. There was no tuberculosis in the family. It is a Negro child and there are other things that would make us think of tuberculosis. The accumulation of fluid of this type could certainly be due to a tuberculous peritonitis. Other cystic lesions? Could this be chylous ascites or a mesenteric cyst? As a general rule a mesenteric cyst doesn't give this type of fluid. Mesenteric cysts in general are more localized. This one would have to have tenacles floating throughout the abdominal cavity and separating the bowel loops. I don't believe this is the case and yet the fluid is of a cystic type. On the ninth hospital day, a laparotomy was performed.

If the child has a Chiari's syndrome, I think we'd have a lower protein content of the ascitic fluid. If ascites were on the basis of portal hypertension we should have an enlarged spleen also. I don't feel at all comfortable about any of the diagnoses we have discussed. I would favor tuberculous peritonitis. Pseudocyst of pancreas, mesenteric cyst or duplications still remain as possibilities.

Dr. W. J. Frable: I would like to ask Dr. Hanback, who operated on this patient, to comment on the operative findings.

Dr. Hanback: When we operated on this child we weren't sure of the diagnosis. The mother told some of the physicians that the child had had a little infection about her umbilicus in her early life. We were considering portal hypertension and splenic vein thrombosis as the preoperative diagnosis. At the time of the operation we planned to repair her umbilical hernia and if she appeared to have portal hypertension, to cannulate a mesenteric vessel and measure portal pressure. Further measures would depend on our findings at operation. When we made our incision about the umbilicus, a huge cyst came right up through the peritoneum. On extending the incision above the umbilicus, the cyst seemed to be arising from the right ovary. We felt the origin was a right ovarian cyst. We resected the cyst along with a portion of the ovary and repaired the umbilical hernia. Postoperatively, the child had no problems whatsoever. Dr. Frable can tell you the pathologic diagnosis.

Dr. Frable: We received a cystic structure and a portion of the right ovary in surgical pathology. The microscopic examination of this showed that it was largely fibrovascular. There was a lining of small cuboidal cells resembling the cells that line the peritoneal cavity (Fig. 2). A proteinacious material adhered to the cyst wall. At least the pole of the ovary was incorporated in the cyst and the cyst arose in that area. We prefer to regard this as a peritoneal cyst arising in the immediate area of the ovary. Since the ovary and peritoneum have a similar embryologic derivation it is not too difficult to understand the origin. A report of 40 cases of unusual abdominal cysts from the Los Angeles County Hospital covering an 18 year period reveals that the vast majority of intra-abdominal cysts are of ovarian origin.[1] They are sub-divided into simple, dermoid, teratoma, granulosis cell and parovarian.

This case perhaps fits best in the parovarian group since there is a lining of peritoneal or mesothelial-like cells. The other major group consists of enteric cysts.

In summary this is an unusual case of a large cyst of the abdomen which has a lining of mesothelial-like cells and which I regard as a peritoneal cyst arising from either the surface of the ovary or in the immediate area of the ovary. Dr. Martin, would you like to make any additional comments?

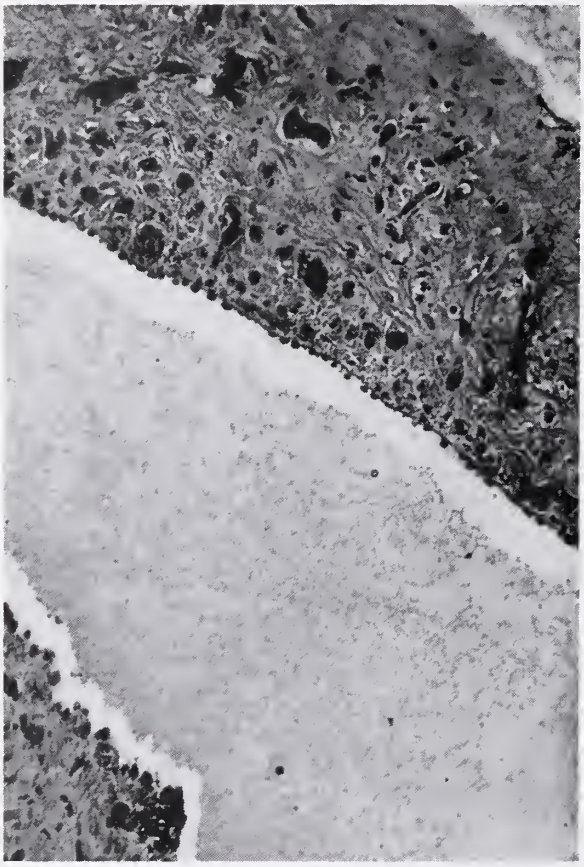


Fig. 2. Cyst lining of cuboidal mesothelial cells on a fibrovascular stroma. H & E x 160.

Dr. Martin: It still is a bit confusing as to how it presented this x-ray picture. The x-rays look like ascitic fluid. The cyst must have been larger than it appeared on the photographs.

Dr. Hanback: It was pretty well filling the peritoneal cavity.

Dr. Martin: It was partially collapsed when the film was taken. It must have extended out through the loops of bowel. It wasn't a large, tense cyst was it?

Dr. Hanback: No, it wasn't.

Dr. Martin: This would explain the high protein count in the fluid which is consistent with a cyst. It still is confusing to look at the x-rays and try to fit an ovarian cyst into the films.

Dr. Neal: In retrospect, from an x-ray standpoint we could probably have noted the fact that the loops of gas-filled bowel were not separated to the degree that you would expect to find with this much fluid. The bowel does rise forward with ascites. In the lateral projection and in the AP films, there was a large amount of gas in the small bowel. The width between the gas-filled loops should have been a little more separated to be consistent with this degree of fluid unless they were fixed by previous inflammatory process.

Final Anatomic Diagnosis

Peritoneal cyst arising from the area of the right ovary.

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Illustrations prepared through the facilities of the Department of Visual Education, Mr. Melvin Shaffer, Director.

Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Medicaid

A needy or indigent person who requires medical care is dependent on his fellow-man for help. The spirit of helping a person who is down and out has been a distinctive trait of our American heritage. Historically such support has been provided to a large degree by our churches, voluntary health agencies, and by individual acts of charity. Today, however, because of high costs, modern medical care is not only out of the reach of millions of our needy citizens, but also beyond the ability of the historic providers of such care. At the same time, America will no longer tolerate neglect for any of its citizens. Continuous, broad tax base support seems the acceptable solution to the problem.

The Medical Assistance Program under Title XIX of the Social Security Act, as amended in 1965, is founded on the premise of comprehensive health care for the needy, supported by tax funds, and is a basically sound approach to the problem. It establishes a Federal-state-local partnership for planning and financing the program. It allows the state to name the state agency to administer the program; it gives the state and the localities the responsibility of defining the needy group to be served and determining the medical and health services to be provided to the defined group.

In Virginia we have been a little slow in putting Medicaid on the road and our program will not begin until July 1, 1969. However, we have used this time to profit from the experiences of others and thereby devise a sound and workable program which lies within the framework of the resources available. In our planning, however, it has become apparent that some changes in the Medicaid legislation are required.

Our principal recommendation is that the law should be amended not only to recognize that all needy people should receive medical care, but to provide Federal financial support for the total group. To limit Federal financial support to coverage of categorical and categorically related medically needy is a serious impediment to the states in their efforts to aid all persons in need.

Rules, regulations, and guidelines should be made more adaptable and should encourage rather than restrict creative, cooperative arrangements among state agencies involved. Priority, emphasis, and the methodology for providing care will vary with the needs, resources and uniqueness of the state or area, and an effective program must allow for such variations. Supplement D of the guidelines should be scrapped and future guidelines written to better facilitate progress and development.

As an example of this, I would offer the situation in Southwest Virginia, which is our Appalachian area. In seven counties of this area, the number of physicians and other medical personnel is very low and is certainly not sufficient to provide the comprehensive health needs of the population. Specifically, there is not a chest specialist located between Roanoke and Kingsport, so if the needy are to have the benefit of a good examination of the chest, where differential diagnosis is in order, the specialist must be imported. At the present time, such a specialist can only be seen at one of the State Health Department's regional chest clinics.

Statement of Virginia State Health Commissioner before Hearings on Medicaid, Department of Health, Education and Welfare, Washington, D. C., December 30, 1968.

This is true of many other medical problems which you find in Appalachia, and in such a situation, where there is a critical shortage of doctors, patient-centered clinics are an absolute necessity. To merely allow the free choice of physician accomplishes nothing for the person to be served. In other words, it requires an organized program to bring good health care to some of our needy. Many of these patients will have to be incorporated into such a program, as they have to be given a great deal of help and guidance in finding high grade medical care. And yet, as presently written, the Medicaid rules and regulations prohibit or discourage such an arrangement.

Case management with progression of patients through a series of medical services has been a mark of success in the Crippled Children's Program. Attempts to incorporate similar services in the Virginia Medicaid program are problematic. Perhaps it is schizophrenic in our nature to encourage special arrangements designed especially for the disadvantaged under one program, such as the Neighborhood Health Centers in OEO, and at the same time discourage this type of arrangement under Medicaid.

If we are ever going to achieve economy, efficiency, and maximum effectiveness in the health care field, we must have an organization structured to make this possible. Too much time and talent are being wasted on a myriad of hodge-podge health programs that often result in a little more than the shifting of professional personnel from one agency to another. In addition to organized public health programs, we have health components for the OEO, Model Cities, and Secondary Education programs. We have all sorts of special projects under Section 314 (e) of the Comprehensive Health Planning Law. And we have maternal and child health and crippled children's programs, with their attendant special project grants, located under the Social and Rehabilitation Service. Medicaid has no relationship to any of these.

One of the biggest complaints about Medicaid is that it costs too much and we can't afford it. I certainly am not an authority on expenditure of Federal tax funds, but I would like to suggest that if we took all the monies we are now spending on the various health programs and combined them into one fund, perhaps the Medicaid program would have a more nearly sufficient source of support. Essentially at present we are covering the health needs of the indigent population, but we are doing this in a very disconnected, disorganized manner. One good program that will insure comprehensive health care, including the preventive aspects, is all the needy population wants or deserves. Certainly it is all the taxpayer can afford.

On the Federal level, would it not make good sense to consolidate all monies, programs, and services now being carried out in the name of providing health care for the disadvantaged or needy? Should not the Federal government by example and reason encourage the states to also consolidate all health services for the needy? With the establishment of a Federal health authority, along with its counterpart in the states, we would have a foundation for a better Federal-state relationship as well as the basis for a real partnership for health. More importantly, we would have a system that would pay off in better, more economical, comprehensive health care for the needy.

In summary I would say that the general concept of Medicaid is sound; certainly I see nothing better in sight. It is an improvement over the categorical special projects, health components, and other programs we now have to piece together to make some sense for the beneficiaries. Two years of experience indicate that refinements are required, but it is our hope that in the long run, there will evolve a strong program designed to meet the needs of our times.

Diagnostic Laboratory Medicine . . . .

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Infections Associated with Leukemia and Lymphoma

The association of infections with leukemia and lymphoma is well documented.[1-3] These reports have demonstrated fluctuations in the incidence of the etiological agents responsible for infections and present various reasons, including treatment with new antileukemic and antimicrobial drugs, as the possible cause of the fluctuations. Such epidemiological studies provide data for clinical and research application and emphasize the need for continued microbiological monitoring in order to establish the role of infection in these diseases.

This study was performed by analyzing 100 charts of patients who had died with the diagnosis of leukemia or lymphoma during the period 1961 to 1966. All the patients included had undergone postmortem examination. In order to establish the immediate cause of death, both clinical and autopsy findings were correlated.

The general profile of the patients included in this study is seen in Table 1. The disease frequently when related to age and sex is similar to that reported elsewhere.[1-3]

TABLE 1

LEUKEMIAS AND LYMPHOMAS
100 Autopsies 1961-66
Sex, Race, and Age Incidence

	Sex		Race		Age			
	Male	Female	White	Negro	0/10	11/20	21/40	41/+
LEUKEMIAS								
Acute granulocytic	12	10	14	8	5	2	2	13
Chronic granulocytic	2	4	6	0	0	0	1	5
Acute lymphocytic	10	9	17	2	14	0	2	3
Chronic lymphocytic	2	1	2	1	0	0	0	3
Stem cell	2	3	2	3	1	1	0	3
Agnogenic myeloid metaplasia	4	2	2	4	0	0	0	6
Subtotal	32	29	43	18	20	3	5	33
LYMPHOMAS								
Lymphosarcoma	8	4	10	2	0	3	1	8
Reticulum cell sarcoma	1	0	1	0	0	1	0	0
Hodgkin's disease	8	6	13	1	0	0	7	7
Multiple myeloma	8	4	9	3	0	0	0	12
Subtotal	25	14	33	6	0	4	8	27
Total	57	43	76	24	20	7	13	60

At first glance there appears to be a difference in the incidence of lymphomas between the races, but this can be explained on the ratio of the general population in the area.

Table 2 demonstrates the sites of infections found in the 100 patients. The most common site of infection was the respira-

tory system. The most frequently isolated bacteria from this system were those of the *Klebsiella-Aerobacter* group (14 patients). The second most common agent was *Proteus mirabilis* (10 patients). It is of importance to emphasize that over 60% of the organisms isolated from the respiratory tract in leukemia and lymphoma patients were gram-negative bacilli. The most frequent gram-positive organism isolated from the respiratory tract was *Diplococcus pneumoniae* (seven patients), followed by *Staphylococcus aureus* (five patients). There were 11 patients with fungi isolated from the respiratory tract. Eight of these patients had *Candida albicans*, one had *Blastomyces dermatitidis*, one *Geotrichum*, and another *Aspergillus*. There was also one patient with a *Pneumocystis carinii* infection.

TABLE 2

LEUKEMIAS AND LYMPHOMAS
100 Autopsies 1961-66
Sites of Infection

	Septicemia	Respiratory	Urinary	Skin	Joint
LEUKEMIAS					
Acute granulocytic	8	12	7	2	2
Chronic granulocytic	0	3	0	0	0
Acute lymphocytic	7	9	1	1	0
Chronic lymphocytic	0	2	1	0	1
Stem cell	1	4	3	0	0
Agnogenic myeloid metaplasia	2	4	3	0	0
Subtotal	18	34	15	3	3
LYMPHOMAS					
Lymphosarcoma	3	7	4	1	0
Reticulum cell sarcoma	0	1	0	0	0
Hodgkin's disease	5	4	4	0	0
Multiple myeloma	4	8	7	0	1
Subtotal	12	20	15	1	1
Total	30	54	30	4	4

The incidence of septicemia in the study group was twice that found in the general hospital population. In septicemia, as in the respiratory infections, the majority of the isolations were gram-negative bacteria (70%). The most common organisms isolated from the blood in order of frequency were *Klebsiella-Aerobacter* group (10 patients), *Escherichia* (8 patients), and *Pseudomonas* (eight patients). The most frequently gram-positive organism was *Staphylococcus aureus* which was isolated from five individuals.

As one would suspect, the gram-negative bacteria were the most frequent isolates from the urinary tract with *Klebsiella-Aerobacter* from 13 patients being the most common. Other gram-negative bacteria in order of frequency were *Proteus mirabilis*, *Escherichia*, and *Pseudomonas*. The most common gram-positive organism was *alpha Streptococcus*. There were two isolations of Candida from the urinary tract.

All of the infectious agents listed above were randomly distributed between the leukemia and lymphoma groups with no specific pattern that would suggest a relationship of a particular etiological agent and a particular type of leukemia or lymphoma.

The cause of death in the 100 patients under study is shown in Table 3. The differences in the cause of death between the two groups were: hemorrhage was more frequent in the leukemia group while widespread organ involvement was more frequent in the lymphoma group. The leading

cause of death in both diseases was infection with approximately 50% of the patients dying of these causes. It is the latter fact that should be emphasized since infections play such an important role in the final outcome in a large number of cases.

In this group, 28 patients had gram-negative infections that appeared to be related to the cause of death; three had fungus infection related to the cause of death and four had gram-positive infections. There were 14 patients in which it was impossible to make a judgment as to what organism was the chief contributing cause.

The results presented above demonstrate the prominence of the gram-negative bacteria infections in leukemia and lymphoma and agree with other published results. However, the finding of the *Klebsiella-Aerobacter* group as the most commonly isolated organisms, differs from that of other reports which show *Escherichia, Pseudomonas,* and *Staphylococcus* to be the more common agents. The relatively low percentage of gram-positive organisms involved in infection in this study follows the trend reported in the literature although the incidence of fungus infections is lower in this study than that reported by others.[1,2,3]

TABLE 3

LEUKEMIAS AND LYMPHOMAS
100 Autopsies 1961-66
Immediate Cause of Death

	Infection	Hemorrhage	Infection and Hemorrhage	Widespread Involvement	Others	Total
LEUKEMIAS						
Acute granulocytic	9	5	3	4	1	22
Chronic granulocytic	2	3	0	1	0	6
Acute lymphocytic	7	4	1	7	0	19
Chronic lymphocytic	3	0	0	0	0	3
Stem cell	4	1	0	0	0	5
Agnogenic myeloid metaplasia	4	0	0	1	1	6
Subtotal	29 (48%)	13 (21%)	4 (7%)	13 (21%)	2 (3%)	61 (100%)
LYMPHOMAS						
Lymphosarcoma	6	0	0	4	2	12
Reticulum cell sarcoma	0	0	0	1	0	1
Hodgkin's disease	6	1	0	7	0	14
Multiple myeloma	8	1	0	3	0	12
Subtotal	20 (51%)	2 (5%)	0 (0%)	15 (39%)	2 (5%)	39 (100%)
Total	49%	15%	4%	28%	4%	100%

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Mental Health....

ELAINE ROTHENBERG

Casework in Mental Health Settings

Helen Harris Perlman's article on "Social Casework" in the *Encyclopedia of Social Work* (New York: National Association of Social Workers, 1965) provides a useful definition of casework practice. She describes casework as one of the helping methods in social work and says that "its particular focus of attention is . . . upon individuals or families suffering from social problems and unable to cope satisfactorily with their social situation or relationships. By provision of certain services and material resources and by psychologically therapeutic support and counsel, casework modifies either the problem experienced in the individual case or the persons' modes of coping with it, often both. The aim of casework is to restore or reinforce or refashion the social functioning of individuals and families who are having trouble in their person-to-person or person-to-circumstance encountance."

In addition to social agencies, other kinds of organizations such as schools, hospitals, clinics, and rehabilitation centers often use social casework as an adjunct to their primary services and sometimes as the major helping means. In psychiatric settings, social casework is often utilized when circumstances in the individual's life situation or emotional problems in the person himself obstruct his productive use of the basic service. In these so called secondary settings, that is those where some other profession is the basic discipline, Mrs. Perlman comments "casework treatment is almost always collaborative, that is it deals with some selected part of the person's problem and always in relation to the purposes of the other professional service . . . for example, in a psychiatric setting such as a hospital, a clinic, or an out-patient department, the caseworker and psychiatrist might share responsibility for a given person. This person will be the 'doctor's patient', being helped by the doctor with his sickness. He will be the social caseworker's 'client' being helped with such social and emotional problems as affect or are affected by his sickness. For the patient, such associated problems might be difficulties he is having in relation to hospital personnel, or with having to be confined, or in relation to family matters, or they might be problems of anxiety and depression roused by his illness and possible consequences for his and his family's future."

In essence, the caseworker in a psychiatric setting is concerned with the social consequences of the patient's illness and attempts to help the patient and his family to solve problems related to these social consequences. In a psychiatric setting, the caseworker may be responsible for developing a social history for the use of the psychiatrist in order to help him consider the social factors that may have bearings on the etiology of the patient's illness. The social worker may also be asked either by the patient or by other helping disciplines within the hospital or clinic to help the patient more effectively use the medical and paramedical services available for treatment of his illness.

The caseworker often works with the patient's family, either to help the family with the social problems growing out of the presence of a family member with a psychiatric disorder or to help them understand the social needs of the patient both while he is in the hospital and after his discharge. In psychiatric clinics the social case-

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Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

worker frequently works with one or more members of the family, while the psychiatrist treats the patient for his illness. The close inter-relationship between psychiatric disorders and the social milieu in which they flourish has been established by a number of research studies. The social caseworker attempts to help the patient and/or his family reorder the social milieu in which the patient lives. Thus, the caseworker not only has social orientation and social responsibility, but must have psychological knowledge and skill in order to provide service.

The social caseworker uses his helping skill and knowledge of community resources and services to help the patient and his family resolve the problems growing out of the social consequences of illness and to develop methods of coping with problems which lead to self-realization on the part of the patient and the family.

Virginia Association of Medical Assistants

The Annual Meeting of the Virginia Association of Medical Assistants was held at Virginia Beach, November 9 and 10, preceded by a Board Meeting, November 8, and presided over by Mrs. Doris Jennings, the retiring president.

Reports were given by the various officers which were complete, brief, and informative. The new officers elected were: Mrs. Evelyn Camper, President; Mrs. Jean Pair, President-Elect; Mrs. Carolyn Williams, Vice President; Miss Beverly Blakeley, Secretary; Mrs. Martha Welch, Treasurer.

The Delegates to the 1969 American Association of Medical Assistants Convention, to be held in Hawaii, were Mrs. Evelyn Camper, President; Mrs. Jean Pair, President-Elect; and Mrs. Beverly Sydnor. The Alternate Delegates elected were Lonie Kanak and Macel Wisecarver.

Dr. Robert L. Cassidy was elected as Advisor to the Virginia Association of Medical Assistants.

Mrs. Evelyn Camper, President, presented a Charter to Janie Bailey, President of the Hampton Roads Association of Medical Assistants.

On January 19, 1969, the Executive Board met in Richmond. The various committees gave reports which were accepted. There was considerable discussion concerning plans of the American Association of Medical Assistants Convention, to be held in Hawaii, at which time Mrs. Ruth Dize, Norfolk, will be installed as President of the AAMA and all present were urged to stimulate interest in their local chapters in an attempt to have as large a delegation as possible in Hawaii.

The following are important dates regarding future meetings of the Virginia Association of Medical Assistants: May 17 & 18—Seminar at Charlottesville; Board Meeting, Norfolk—August 17; VAMA Convention—November 7, 8 & 9; National Meeting of the American Association of Medical Assistants—Hawaii—October 15-19.

DOCTORS—Please urge the ladies in your offices, if not already members of the local, state, and national organization, to take out membership and encourage them to attend these meetings by allowing them sufficient time off.

In closing, I would like to again stress the importance of financial assistance to the ladies at these meetings with a reminder that any financial assistance is DEDUCTIBLE as office expense.

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Cancer Trends . . . .

Edited by—

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Polyps of the Colon

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Nothing is more intriguing to the clinician and pathologist than the subject of colonic polyps. A polyp refers to a projection from a mucous membrane surface, and does not necessarily imply that the surface epithelium is proliferating. Polyps and papillomas are sometimes confused by clinicians. If we define papillomas as villous-like proliferations of the epithelium, the distinction will at once be made clear.

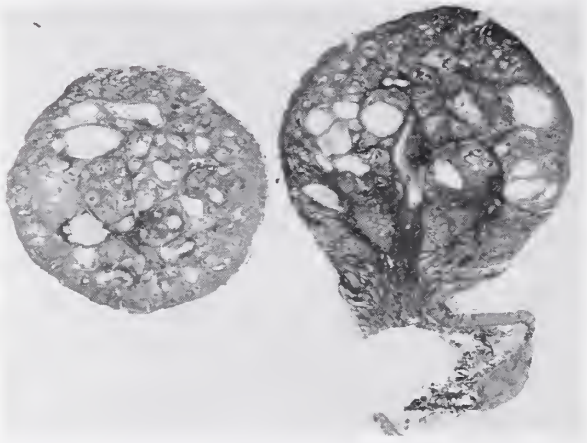


Fig. 1. Juvenile inflammatory polyp. Note multiplicity of cystically dilated glands.

The polyp can be subdivided into several varieties. There is the inflammatory polyp (Fig. 1), also called the juvenile and retention polyp, the hamartomatous polyp (Figs. 2 & 3), the lymphoid polypoid (Figs. 4 & 5) the hyperplastic polyp (Fig. 6 & 7), the



Fig. 2. Gross appearance of grape-like clusters of polyps in small bowel in Peutz-Jeghers syndrome.

lipomatous polyp (Fig. 8) and the adenomatous polyps (Figs. 9-12). It is the last-named that we are concerned with in this presentation.

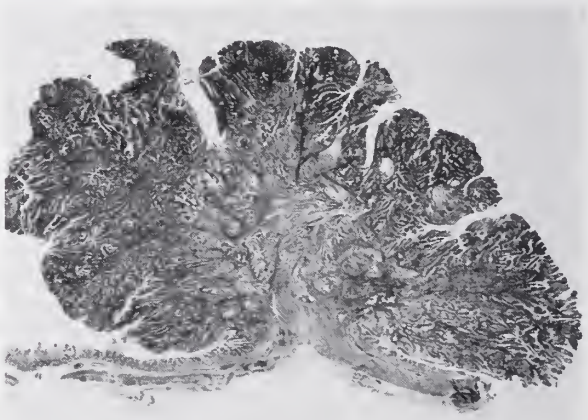


Fig. 3. Low power view of hamartomatous polyp in Peutz-Jeghers syndrome. Note bands of smooth muscle permeating between proliferating glandular elements. Under high power the glandular elements are seen to be composed of all the normal epithelial components of the small intestine.

Sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.



Fig. 4. The lymphoid polyp shows normal colonic mucosa covering sheets of lymphoid elements which are confined to the tunica propria.

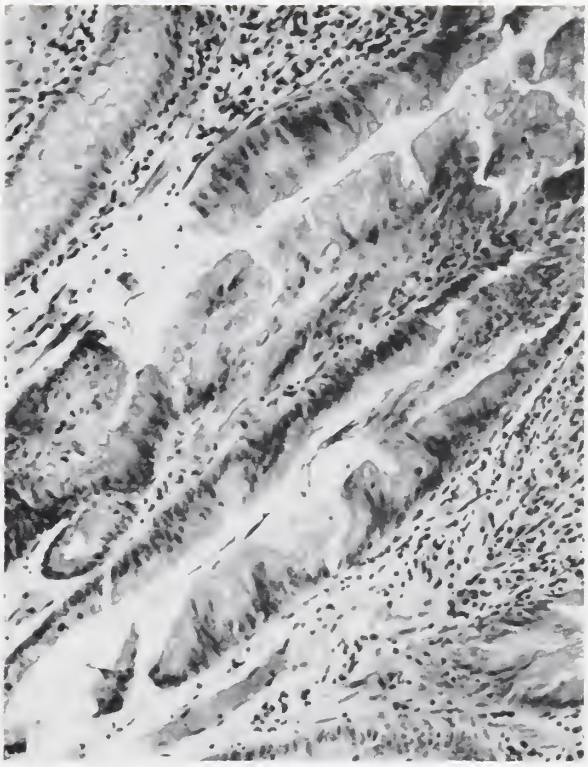


Fig. 6. The hyperplastic polyp shows saw-toothed glands lined by columnar cells with deeply eosinophilic cytoplasm.

The adenomatous polyp can be defined as a mucosal projection due to glandular proliferation of the mucous membrane, associated with variable degrees of cellular

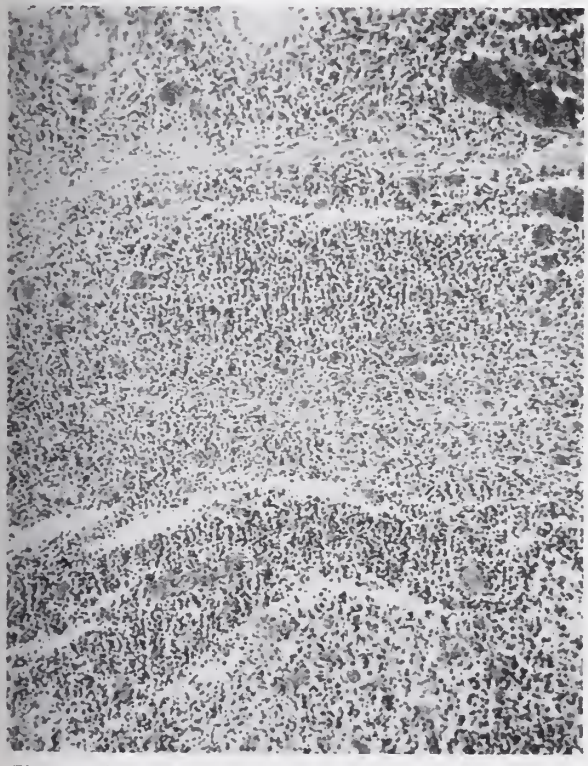


Fig. 5. High power view of fig. 4. Both diffuse sheets of lymphocytes and a germinal center are seen.

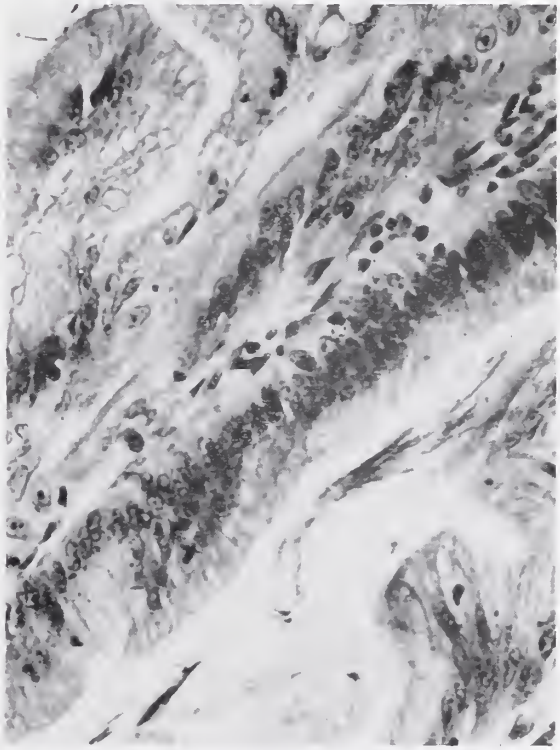


Fig. 7. High power view of fig. 6. Note lack of cellular atypism.



Fig. 8. The lipomatous polyp made up the lobules of mature fat cells.

atypism. This definition should exclude the papilloma, the villous adenoma or the papillary adenoma (Figs. 13 & 14), though ad-



Fig. 9. Low power scanning view of adenomatous polyp. The head of the polyp is composed of proliferating glandular elements showing variable degrees of cellular atypism.

mittedly a combination of these proliferating elements may occur.

It is not the purpose of this report to be involved with the problem of whether or



Fig. 10. Medium power view of fig. 9 to show glands lined by crowded, atypical columnar cells.



Fig. 11. High power view of fig. 9. An atypical gland is contrasted with a normal colonic-type gland.

not the adenomatous polyp is a precancerous lesion. Of course the polypoid carcinoma (Fig. 15) is excluded since this is a real malignant tumor from the beginning. Many years ago it was felt that most, if not all, colonic carcinomas had their origin in ade-



Fig. 12. Typical gross appearance of adenomatous sigmoid polyp.

nomatous polyps. Recently doubt has arisen concerning this relationship. No doubt, however, exists about papillary adenomas or familial polyposis. (Fig. 16) Most will agree that carcinoma is a real threat in the patient with these lesions.



Fig. 13. Gross appearance of the papillary adenoma or villous adenoma. The neoplasm presents a velvety, nappy surface soft to palpation.

What does one do about the common garden-variety adenomatous polyps? Here it is most essential that the clinician and the pathologist speak the same language. A polyp can be either sessile or pedunculated. The latter has its origin from the former by virtue of peristaltic action upon the head of the polyp. This will cause the polyp to become elongated so that a pedicle is



Fig. 14. Low-power scanning view of the pillary adenoma. The tumor in this case is confined to the mucosa over a broad area, and shows villous, proliferating folds.

formed. The presence of a well-developed pedicle allows the polyp to be snared so that

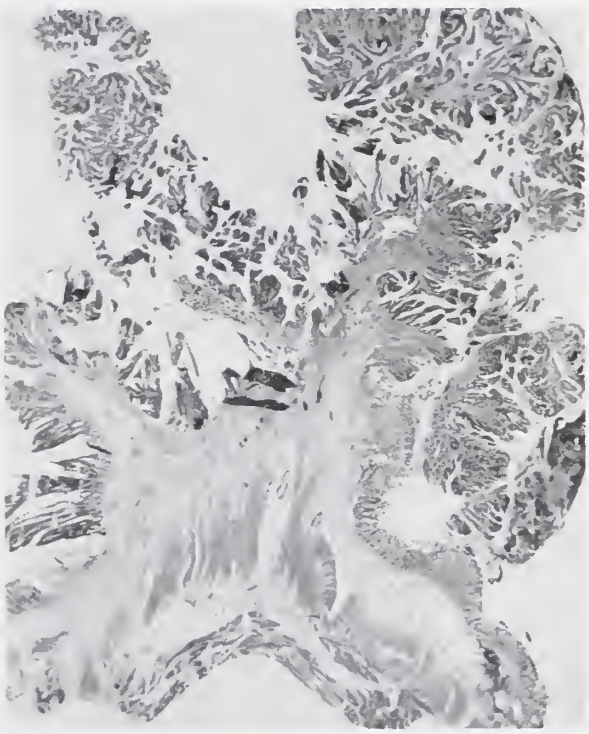


Fig. 15. The polypoid carcinoma shows carcinomatous glands projecting from the surface of the colon in polypoid fashion.

no incision need be made into the bowel proper.

The problem arises when one describes the microscopic pattern of the head of the polyp. Since a variable degree of cellular atypism is present in all polyps, the pathologist has a choice of multiple descriptive terms. Thus one might say adenomatous polyp with cellular atypism, intramucosal carcinoma in a polyp, carcinoma in a polyp with invasion of the stalk, etc.



Fig. 16. Gross appearance of familial multiple polyposis. The entire mucosa is here transformed by crowded sessile and pedunculated polyps of varying size and configuration.

Prior to the histologic evaluation of a polyp, we might question what therapeutic endeavors are justified. A study of large numbers of polyps by Grinnel and Lane[1] has shown that the polyp 1 cm. and less is rarely malignant. A patient without symptoms may therefore justifiably be watched for further progression of the polyp.

With a polyp larger than 1 cm., it is necessary to histologically verify its nature. If a polyp is sessile, resection of the polyp and adjacent bowel with a wedge of mesentery and end to end anastomosis is advised. This obviates the problem of subsequently finding either a polypoid carcinoma or carcinoma in a polyp in an inadequate surgical excision.

If the polyp is pedunculated there is room for varying the surgical procedure. If the head of the polyp shows carcinomatous changes, but the pedicle is free of tumor, it is safe to excise the polyp at the base of the pedicle through a colotomy incision. I personally have never had reason to regret this decision, and at one time I thought that fully documented proof of metastases from carcinoma in a pedunculated polyp with negative stalk was wanting. A recent paper by Lane and Kaye,[2] however, does show that such an event is possible, and the authors also cite a few other examples from the literature. These few odd instances, however, should not alter our basic therapeutic approach. All will admit that intramucosal carcinoma in a polyp is histological cancer and not biological cancer. If carcinomatous glands invade the submucosa of the head of the polyp, there is a potential threat of metastases, but this danger is so small that it can be ignored if the pedicle is free of tumor. If the stalk of the polyp is infiltrated by carcinoma, the threat of metastasis is more imposing, and colonic resection is wiser.

How are all these problems solved in the operating room for polyps requiring abdominal exploration? I have clearly related my feelings about sessile polyps. With the polyps having well-defined stalks, the polyp can be safely excised with the pedicle. A frozen section is preferred on the pedicle. If this is free of tumor, nothing further need be done. Should the head of the polyp subsequently prove to have carcinomatous change within it, there is no reason for reexploration. Involvement of the pedicle by tumor seen at frozen section would require removal of the segment of colon harboring the polyp. Thus, the patient can well be served during the operating procedure with obviation of a second operation from previous inadequate surgery.

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Editorial Comment

The Editors of "Cancer Trends" are delighted to have this contribution by Dr. Kay as it so clearly outlines the problem that frequently faces the surgeon. Much of the problem in the operating room is clearly resolved when communication and understanding of terms is accomplished with the surgeon and the surgical pathologist working together as a team.

In other reports the relationship between size of the gross polypoid lesion and the likelihood of its being cancer has been described. Although the minimum size for lack of concern over this cancerous potential varies between 1 cm and 1.5 cm, it would certainly appear that histologic study is required for lesions above this size. Most surgeons feel that even smaller lesions should be removed if this can be safely done by cautery-snare through a sigmoidoscope, and with this we would agree. The size factor becomes important with lesions above this level.

The precancerous nature of the adenomatous colon polyp is frequently debated, but a more realistic view regarding this potential has been developed over recent years as the result of studies by a number of workers, particularly Ackerman.[1] Arguments for a causative relationship between adenomatous colon polyps and cancer include frequently coexistence, *histologic* evidence of malignant change on the surface of some polyps, and the incidence of carcinoma in patients with familial polyposis. On the other hand, the somewhat different anatomic distribution in various parts of the colon, the similar age peak (rather than an earlier peak for polyps), the rarity of adenomatous polyps on careful histologic study of very small carcinomas (less than 2 cm), and the relative incidence of cancer in polypoid versus non-polypoid colons, all tend to considerably diminish the possibility of a direct causative relationship between adenomatous polyps and colon cancer. By following the general approach Dr. Kay has outlined, there appears to be little likelihood of our neglecting any cancerous potential that might exist in these polypoid lesions.

The Editors

1. Spratt, J. S. and Ackerman, L. V.: Relationship of Polyps of the Colon to Colon Cancer. Ann. Surg. 148: 682, 1958.

Woman's Auxiliary....

The Medical Society's Lady—the Auxiary

Her story has been told and retold, explained and evaluated. First we are loving wives and mothers and then we assume the responsibilities as members of our communities. It is surprising to learn that some individuals still are not aware of Doctors' wives as women deeply concerned and involved in their communities. Auxiliary by Webster's definition means *helpful, giving aid* or *support*. We *aid* our members in assuming their roles more effectively as physicians' wives. We seek to bring these women and their families harmoniously together for mutual enjoyment. Under guidance and supervision by the leaders of the medical profession, physicians' wives *help* to serve as a reliable liaison between the medical profession and the lay public. The Woman's Auxiliary has grown up and can demonstrate a mature organization capable of enlarging or *supporting* the aims or programs of the medical society.

If the Auxiliary is to be truly beneficial to all and carry out these objectives, attention should be given to bring the new physician's wife into the group by extending a warm and friendly welcome through a welcome committee for example. This committee can contact the potential member, arrange transportation to a meeting and introduce her to Auxiliary members. An active welcome committee can make the new members feel more at home.

Through these special efforts to acquaint her with your members and its purposes, her interests and sympathies undoubtedly will be aroused. But . . . observe for a moment the new member . . . still new, uncertain, needing assistance. In order to assure her continuing interest, include her in activities and committees. Interesting pertinent programs or timely exhibits can influence continuing success. Young blood and new ideas are prerequisites for stimulation and development of any organization. *One hundred per cent* participation is our goal! . . . and "At no time in the past 36 years has the future looked brighter for the restoration of constitutional government", stated James M. Moss, M.D., Alexandria. *VaMPAC* is our *opportunity* to halt the "creeping socialism and fiscal irresponsibility of our government". The election of President Nixon is a political reprieve though late and temporary. As more than slightly interested observers of the medico-legislative aspects at the very least, we must add our voices to the growing din to urge our husbands and include ourselves to support the programs of *VaMPAC*. This is the chance to function as opinion-makers and openly support the candidate of your choice or legislation for better government. Words are not enough. There is no time for indolence and no place for apathy in our modern society. The green-backed loudspeaker must carry the message from our pockets. The dues are now $40.00 per family ($25.00 for your husband and $15.00 for yourself). Where can you get a better deal for better government?

Editorial....

Famous Rides and Riders—Fact and Fiction

"Know ye not that they which run in a race run all, but one receiveth a prize."—I Corinthians-IX, 24

PART III

THE WORDS, "Whoever has made a voyage up the Hudson must remember the Catskill Mountains" are familiar to most as those of Washington Irving, and well may they awaken visions of Ichabod Crane's terror stricken ride when he was fleeing from what he believed to be a headless horseman—as described in Irving's *A Legend of Sleepy Hollow*. Moreover, those who have read Isabel Mason Chamberlain Cochran's essay on *The Ride of Captain Jouett, Jr.,* would also be prompted to think of the word picture of Charlottesville as portrayed by that lady, and which is quoted verbatim as follows: "Whoever has journeyed from Eastern Virginia into the County of Albemarle must remember the rugged beauty of that region, and especially must he remember his first glimpse of Charlottesville. It nestles in a cup-like enclosure between the mountains and is in the center of an impressive scene that gradually unfolds itself to the view of the traveler, as he passes the porter's lodge of Monticello and begins the descent into the valley below. Away to the westward the cerulean peaks of the Blue Ridge run along the horizon. Nearer are those uneven spires of the former ridge, the Ragged Mountains, mauve colored and somber, silhouetted against the azure of the larger range with a singular distinctness; and nearer yet at the feet of these, as they encircle the quaint old town with their straggling hills, is the white dome of the Rotunda of the University of Virginia." It was over the fields, through the woods, and across hills and dales of this kind of country and to the great little town of Charlottesville, that Captain Jack Jouett made his momentous ride.

His father, Jack Jouett, Sr., was owner of the Swan Tavern which still stands and was many years ago converted into the Redlands Club. For a long time it was believed that Jack Jouett, Sr., had made the spectacular ride, but a careful and thorough perusal of old records and journals has led to the establishment beyond a doubt that the credit belongs to the son.

During the Revolutionary War Jack Jouett, Jr., served as a captain in the Virginia State Militia, as did his father and three brothers. One brother, Mathew, was killed at Brandywine. It is not definitely known why Jack, Jr., happened to be in the vicinity of Charlottesville at this time nor why he was 45 miles from home at Cuckoo Tavern in Louisa County on the night of 3/June/1781. It is possible that he was home on leave and had ridden into Louisa County on business for his father who owned a large farm there.

Colonel Tarleton, the dashing, daring, young British soldier, had been

sent by Cornwallis, with 180 dragoons and 70 mounted infantrymen to make a surprise march on Charlottesville for the primary purpose of capturing the Governor of Virginia and members of the legislature who were in session there. This was big game, for Virginia's Governor at that time was Thomas Jefferson and among the legislators were Patrick Henry, Richard Henry Lee, Benjamin Harrison (ancestor of two Presidents of the United States) and Thomas Nelson, Jr.

Earlier that year the traitorous Benedict Arnold had joined the forces of General Phillips at Portsmouth and they had proceeded to a place called Manchester, just across the river from Richmond, Virginia. Cornwallis united with these forces and they were a constant threat to the government of Virginia. The legislature had fled from Williamsburg, the capital, to Richmond and from there to Charlottesville which, for a brief time, became the capital of the State.

Colonel Tarleton reached Cuckoo Tavern in Louisa, the County Seat, around 9 or 10 P.M. on 3/June/1781. It is not positively known whether Jack Jouett was inside the tavern when the British soldiers swept by or whether they met or passed him on the road, and he simply divined their destination and intentions. Perhaps, as one version has it, several of the troopers entered the tavern for a little libation and Jouett, either eavesdropping or mingling with them, learned of their plans.

The important fact is that this Virginia militiaman saw the raiders, became cognizant of or correctly guessed their objective and resolved to outride them. He realized that, unless warned, the Governor and legislators would be as sitting ducks and their capture would be a certainty.

Jack Jouett, Jr., was, at the time, 27 years old. He stood six feet, four inches in height and weighed 220 pounds. His horse was described as "the best bred and fleetest of foot of any nag in seven counties" and "a bay mare—a true Virginia thoroughbred."

It was probably about ten o'clock at night when this herald of mischief afoot got under way. He knew the likelihood of his outriding Tarleton and his dragoons by following the beaten path was not good; so he took to the byways. For those who can remember what were considered "good roads" in Virginia even 50 years ago, it will not be difficult to imagine what the byways must have been like during the Revolution.

Jack Jouett plunged into what was undoubtedly a virtual wilderness. He struggled over gullies, through matted grape and honeysuckle vines, across streams and pushed his way through dense undergrowth of tangled briars and brush. He rode valiantly and the gallant mare struggled with him. The face of the man was painfully torn and bleeding when he reached his destination. He wore the scars to his grave.

It is likely that the moon was shining that night since astronomical calculation shows it was within one day of being full on the night of 3/June/1781. So, unless there were heavy clouds, darkness was not added to the already great handicaps to be overcome. It is probable that both Tarleton and Jack Jouett stopped from time to time to rest their mounts, for it would have been impossible for any horse to cover such a distance without rest.

Dawn was breaking over the hill of Albemarle when the exhausted horse and rider labored up to Monticello. It was 4:30 A.M. when the Governor of Virginia was awakened by the messenger who warned him of the impending danger to himself and to his legislators. Tarleton and his men had been left far behind. After light refreshments at Monticello, Jouett urged his all-but-spent mount onward for the two additional miles to Charlottesville, where the legislators slept at his father's tavern—arriving there some three hours ahead of the British.

The "House" quickly assembled and as quickly adjourned to meet three days later in Staunton. Seven of the members, apparently somewhat sluggish on the get-away, were captured. Jefferson, after receiving Jouett's alert, packed his family (Mrs. Jefferson was still alive then) off posthaste to "Blenheim", the Carter estate, some miles distant, and ordered that his horse be saddled and held in readiness at a certain spot. He was in no rush himself and so spent a few minutes going over some papers. Then, taking his telescope he walked out on the hillside from whence he could get a good view of Charlottesville and of the roads leading into it. He saw no sign of extraordinary activity nor heard the sound of approaching calvary. Believing he still had time to attend to a few more details before leaving, he started back to the house. Before taking many steps, however, he noticed his "walking" sword had slipped from its scabbard. He returned to the place from which he had viewed the surrounding country through the telescope and found it. While there he decided, for safety's sake, to take another look, and it is well he did. This time he saw troops swarming the streets. He rushed to where his horse was waiting, mounted and plunged into the woods. Even then Tarleton was hammering on the doors of Monticello. The seemingly trivial incident of the lost "walking" sword played a major role in his escape for he made a clean getaway and later in the day joined his wife and family.

Jack Jouett, in company with General Stevens, a member of the legislature who was recuperating from a wound received at Guilford Courthouse, set out from Charlottesville bound for Staunton. The General, being on leave from the Army, was dressed as a farmer. Jack, in sharp contrast notwithstanding, wore a scarlet coat and a plumed hat simply because, according to Jefferson's biographer, Henry S. Randall, Jouett liked to dress up.

Tarleton's men caught up with them while crossing a cornfield and, because of his dress, thinking General Stevens a farmer out inspecting his crops, centered their attention on his travelling companion who, by reason of his scarlet coat and plumed hat, they figured was an important personage. General Stevens disappeared into the nearby woods while Jack coquetted with his pursuers. When he concluded that General Stevens had made good his escape, he gave his horse (a fresh one, it is hoped) full speed ahead and was soon safely out of sight.

(To be continued and concluded in part IV)

H. Lamont Pugh, M.D.

Abortions

AN ESTIMATED ONE MILLION plus illegal abortions are done yearly in the United States, truly "The Hidden Epidemic". The studies of the Kinsey school confirm the magnitude of both marital and extra-marital intercourse; there is no indication that such intercourse will decrease in the foreseeable future. The physician, neither moralist nor legalist, can thus be expected to be confronted with the problem of unwanted pregnancy as long as there are people. It is not properly within his province to remake people but to accept people as they are and to administer to them with all their foibles. The Roman poet might have had the physician in mind when he wrote "Nothing human must be alien to me".

One suspects that the greater the population pressure, the less consideration of the "rights" of the embryo, a parasitic structure completely dependent upon the hostess for its very existence. Abortions in Japan, for example, are largely for the asking. The conclusion that the Japanese are less moral than we is presumptuous if not ludicrous. The conclusion that the Oriental reveres life less than we is parochial: I have seen them bewail their dead and dying with as much passion as we bewail ours.

Whatever the cause, the attitude toward abortions in the United States is changing. In the past, most states have permitted abortion only to save the life of the mother. In five states and the District of Columbia, protecting the health of the mother has been added. But there is still much farther to go. The inaccessibility of legal abortion to children, to the raped, to those with a high probability of harboring an abnormal fetus, to those who would suffer intolerable social, economic or emotional dislocation (and what frightened teenager confronted with a self-righteous society would not?), is little short of barbaric.

After initiating the process of conception, the male rearranges his attire, proceeds to the state legislature, and there, with incredible cheek, formulates the laws governing the relations between the female and the parasite growing within her, with little or no regard to her needs or preferences concerning this relationship. The male knows what is best for her. Were legislators, physicians, and clerics largely female the differences in abortion laws from the present ones would make striking reading.

The Model Penal Code of the American Law Institute has served as a guide for the abortion laws in the most progressive states, such as Colorado, Maryland, and North Carolina. Under this code, abortions would be permitted under the following circumstances: if the pregnancy would severely impair the physical or mental health of the woman; if the child would be born with grave physical or mental defects; or if pregnancy followed felonious intercourse. Even if all state laws followed the Model Penal Code, it has been estimated that 85% of abortions would still be illegal.

A Presidential advisory council on the status of women, headed by

former Sen. Maurine Neuberger (D.-Ore.), has recommended that state laws penalizing abortion be repealed. "Proposals which permit abortions under certain circumstances while penalizing all others deny the right of a woman to control her own reproductive life in light of her own circumstances, intelligence and conscience," the report stated. "Although governmental agencies and the medical profession may offer service and counsel, they should not exercise the power of decision over the woman's personal right to limit the number of children she will have, and her right to decide whether to terminate a particular pregnancy she does not wish to carry to term."

No ethical physician is likely to provide any service on patient-demand, but this is a plea to make abortion a private matter between the woman and her doctor, just as any other medical matter, to be undertaken only after an "honest and competent evaluation indicates that this procedure will be in the best interests of the patient". This is a plea to do away with kitchen-table surgery done by ignorant dirty hands, and to avoid the frightful deaths of young women at the early morning of their lives. Perhaps generations yet unborn will look back on our present abortion practices as we look back on theocracy's witch-burnings of colonial times.

C. V. Cimmino, M.D.

Dr. Cimmino Bows Out

THE RETIREMENT of Dr. Christian V. Cimmino from the Editorial Board of the Virginia Medical Monthly leaves a void that will be difficult to fill. He has been an Associate Editor for 14 years. His term of service has been longer than that of any other member of the Board.

His pungent prose and his variety of subjects, which ranged from roentgenology to the vagaries of present day teaching, have enlivened the pages of the journal and will be badly missed. Many of his barbs must have struck home for proponents of the current pedagogy have come out screaming after each article.

This issue of the journal contains his last editorial unless he can be persuaded to return to the Board. The writer hopes he will change his mind.

H. J. W.

News . . . .

Calendar of Events

American Society of Internal Medicine—Annual Meeting—The Palmer House —Chicago, Illinois—April 18-20, 1969.

American College of Physicians—Annual Session—The Conrad Hilton—Chicago, Illinois—April 20-25, 1969.

Psychological Aspects of Stress—Sponsored by University of Virginia School of Medicine—Charlottesville—April 23-24, 1969.

Annual Clinical Meeting—American College of Obstetricians and Gynecologists —Americana Hotel—Bal Harbour, Florida—April 28-May 1, 1969.

Annual Scientific Assembly—Virginia Academy of General Practice—Williamsburg—April 30-May 4, 1969.

National Conference on Breast Cancer—Sponsored by American Cancer Society and Cancer Control Program, U. S. Public Health Service—The Shoreham—Washington, D. C.—May 8-10, 1969.

Arthritis Seminar—Sponsored by Roanoke Chapter of the Arthritis Foundation of the University of Virginia—Hotel Roanoke—Roanoke—May 9-10, 1969.

Infectious Disease and Hospital Infection Control—Sponsored by University School of Medicine—Charlottesville—May 16-17, 1969.

Postgraduate Psychiatry Seminar for General Practitioners—Sponsored by Department of Psychiatry, University of Virginia School of Medicine—Admiralty Motor Hotel—Norfolk—May 16-18, 1969.

Flying Physicians Association—Annual Meeting—Lake Placid Club—Essex County, New York—June 15-20, 1969.

Annual Convention—American Medical Association—New York—July 13-17, 1969.

Medical Aspects of Sports—VPI Coliseum—Blacksburg—July 27, 1969.

Special Announcements

The Continuing Education Program of the University of Virginia School of Medicine is sponsoring a spring series of Thursday afternoon lectures through May 8, 1969. Full details can be obtained from the Office of the Dean.

The Bristol Memorial Hospital, Bristol, sponsors continuing education programs on every fourth Thursday morning. Details can be obtained from the office of the Administrator, Bristol Memorial Hospital, 209 Memorial Drive, Bristol.

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

During the month of February, the following new members were admitted into the membership of The Medical Society of Virginia:

Charles Martin Caravati, Jr., M.D., Charlottesville
James Howard Clark, M.D., Roanoke
Claude Howard Crockett, Jr., M.D., Bristol
Harold C. Kuykendall, M.D., Alexandria
Ruben Lopez-Toca, M.D., Alexandria
Stanley D. Maoury, M.D., Manassas
Lawrence Oren McKnelly, M.D., Arlington
Richard Anthony Mladick, M.D., Norfolk
Richard Martin Morrison, M.D., Danville
Juan Suarez Murias, M.D., Springfield
Terence O'Flanagan, M.D., Arlington
Stephen Harold Schachner, M.D., Falls Church
George Walker Sommers, M.D., Alexandria
Ward William Stevens, M.D., Roanoke
Charles Andre Stringfellow, M.D., Charlottesville

Wise County Medical Society.

Dr. A. H. Bond, Norton, has been elected president of this Society. Drs. L. C. Strong, Norton, C. I. Fuller, Wise, and Jose Bofill, Wise, are vice-presidents, and Dr. Joseph Straughan, Wise, is secretary-treasurer. Dr. D. B. Jones, Wise, is the new member of the Board.

The annual meeting was held on February 12th. Speaker was Dr. Thomas Pruitt, Daniel Boone Clinic, Harlan, Kentucky, who presented a lecture on glaucoma.

Virginia Society of Internal Medicine.

Officers for 1969-1970 are: President, Dr. Frank Wade, Roanoke; president-elect and secretary-treasurer, Dr. Thomas Gorsuch, Waynesboro; and Drs. Don Holsinger, Martinsville, Charles Caravati, Richmond, Robert Sease, Harrisonburg, David Scott, Fredericksburg, and William Hunt, Charlottesville, members of the executive committee.

Northern Virginia Academy of General Practice.

Dr. Ernest G. Rafey, Annandale, is president of the Academy; Dr. Sidney Lyons, Arlington, vice-president, and Dr. Edward Zakaib, Alexandria, secretary-treasurer.

American College of Radiology.

The following Virginia physicians were made fellows of the College at its annual meeting in Atlanta, February 21: Dr. Seymour H. Levitt and Dr. M. Pinson Neal, Jr., Richmond, and Dr. John E. Prominski, Arlington.

Dr. Carl E. Stark,

Wytheville, has been elected second vice president of the Virginia Society of the Sons of the American Revolution.

Hospital Staff Members.

Dr. Niels Oster has been elected chief of staff of the Tidewater Memorial Hospital, Tappahannock. Dr. Paul C. Pearson has been re-elected secretary-treasurer.

Virginia Regional Medical Program.

Three physicians have been employed on a part-time basis as staff division officers of the Virginia Regional Medical Program. They are Dr. Thomas A. Edwards, Charlottesville, staff division for heart disease; Dr. Carrington Williams, Jr., Richmond, cancer; and Dr. David W. Scott, Jr., Fredericksburg, stroke.

Arthritis Seminar.

The Virginia-West Virginia Chapter of the Arthritis Foundation in conjunction with the Blue Ridge Chapter of the Virginia Academy of General Practice will sponsor an Arthritis Seminar at the Hotel Roanoke, May 9 and 10. The speakers for the 9th will

be: Dr. Elam Toone, Richmond, on Systemic Manifestations of Rheumatoid Arthritis; Dr. John S. Davis, Charlottesville, on Laboratory Diagnosis in Rheumatic Diseases; Dr. Richard Freyberg, New York City, on Problems in Diagnosis and Treatment of Rheumatoid Arthritis; and Dr. John Decker, Bethesda, Maryland, on Reiter's Syndrome. The luncheon speaker will be Dr. William S. Clark, New York City, President of the Arthritis Foundation. His topic will be Current Concepts of Rheumatoid Arthritis. At the afternoon session, Dr. Currier McEwen, New York City, will speak on Ankylosing Spondylitis; Dr. Maxwell Lockie, Buffalo, New York, on Treatment of Gout; Dr. Lawrence Shulman, Baltimore, on Systemic Lupus; and Dr. Arthur L. Brooks, Vanderbilt University, on Surgery of Rheumatoid Arthritis.

The Saturday morning session will be for the general public.

This symposium is approved for six hours credit by AAGP.

American College of Emergency Physicians.

Indeed, it is obvious to all that a hospital's emergency room is becoming increasingly important in the overall medical care given to the residents, as well as transients, of a community. To meet this demand, many physicians voluntarily devote a significant portion of their time to afford adequate coverage to an emergency room. Other hospitals have acquired full time physicians to engage in a private practice within their emergency areas. In addition, those fortunate institutions who have intern and resident staff are seeking a group of physicians to direct and assist in patient care as well as to instruct the house staff in emergency care.

With the public demanding more adequate and generalized care within an emergency room other than the usual accident and acute illness victims, the physicians so engaged in this coverage are realizing numerous problems arising in this field which at first appear to be regional but in fact national in scope, possibly differing only in degree. Therefore, the need for an interchange of ideas, ideals and policies becomes obvious. A group of representatives of many emergency rooms, nationwide in distribution, recently met in Washington, and just lately in Chicago, and upon feeling the need of a national organization brought forth The American College of Emergency Physicians based on the following purposes:

a. To advance the ethical standards of the private practice of emergency medicine and surgery.

b. To encourage and implement the training and continuing education of emergency physicians.

c. To improve emergency services rendered to the patient.

d. To promote patient education emphasizing the ethical standards and principles of private practice.

e. To preserve the right of the emergency physician to engage in medical and surgical procedures for which he is qualified by training and experience.

f. To study and to analyze the socio-economic aspects of the private practice of emergency medicine and surgery.

g. To promote policy which preserves the integrity of private practice.

h. To promote coordination of community emergency care facilities and personnel.

With this organization being in its infancy, it is our present goal to seek out those physicians engaged in rendering emergency medical care in the various hospitals throughout our nation. Representatives for each state and territory have been appointed to provide local assistance and to seek out members for this organization.

The representative for Virginia is:

Gus. V. Jackson, Jr., M.D.
c/o St. Mary's Hospital
5801 Bremo Road
Richmond, Virginia 23226

Established Practice Available.

In urology and proctology, physician recently disabled. Modern office near new hospitals in Roanoke. Urology, proctology and general practice equipment for sale, including x-ray machine, nyematic dictating system and reception room furniture. If interested, write "Practice", care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Hospital Physician Wanted.

The medical staff, board of directors and administration of Winchester Memorial Hospital, Winchester, are seeking the service of one full-time physician to join three in private general practice, limited strictly to the Emergency Department of the Hospital. Average work week is forty-two hours. A generous guarantee has been established.

Interested physicians, with a Virginia license, contact the committee chairman, James A. Miller, M.D., Box 987, Winchester. Phone (703) 662-4121, Ext. 221. (*Adv.*)

Physician Wanted.

Mary Washington Hospital, Fredericksburg, wishes to begin a medical staff and hospital board approved, full time emergency department physician program. Fee for service basis with guaranteed minimum income. Estimate 16,000 to 17,000 E.R. patients in 1969. Interested physicians please contact Harry Bach, Administrator. Telephone 373-4110. (*Adv.*)

Full Time Physician Wanted

For student health service at Virginia Polytechnic Institute. For further information, write or call Dr. Emory R. Irvin, Blacksburg, Virginia 24060. Phone 552-6444. (*Adv.*)

Obituary . . . .

Dr. Donald Snead Daniel, Sr.,

Richmond, died March 3 after a long illness. He was seventy-one years of age. Dr. Daniel graduated from the Medical College of Virginia in 1924. Before locating in Richmond in 1929, he served as head of the Northampton-Accomack Memorial Hospital at Nassawadox. Dr. Daniel was affiliated with Johnston-Willis Hospital and was president of the Hospital for two years before his retirement in 1967. He served as an army pilot during World War I.

Dr. Daniel has been an active member of The Medical Society of Virginia for forty-three years. He was a past president of the Southeastern Surgical Congress, a former member of the board of governors of the American College of Surgeons, and a former member of the Virginia State Board of Medical Examiners. Dr. Daniel was also a trustee of Chowan College, Murfreesboro, N. C., and a past president of the Alumni Association of the Medical College of Virginia.

His wife, two sons and two daughters survive him. The sons are Dr. Donald S. Daniel, Jr., of Richmond, and Dr. Thomas Moore Daniel of Durham, N. C.

Dr. Aaron Seldes.

Richmond, died March 1, at the age of sixty-eight. He was a graduate of the Medical College of Virginia in 1924 and had praticed in Richmond since that time. Dr. Seldes had been a member of The Medical Society of Virginia for forty-three years.

His wife, two sons and two daughters survive him.

Dr. Glenn Calvin Campbell,

Staunton, died February 20, following a heart attack. He was seventy-eight years of age and received his medical degree from the University of Virginia in 1920. Dr. Campbell began his practice in Staunton in 1931 and retired in 1964, although he remained on the staff in the pathology department of the King's Daughters' Hospital. He was a member of The Medical Society of Virginia, having joined in 1931.

Dr. Campbell is survived by two sons and two daughters. Mrs. Campbell died in January of this year.

Dr. Wilbert Enoch Butler,

Norfolk, died February 21. He was sixty-nine years of age and graduated from the Medical College of Virginia in 1930. Dr. Butler had practiced surgery in Norfolk for thirty-two years. He was a Mason, a Knights Templar and Shriner. Dr. Butler had been a member of The Medical Society of Virginia for thirty-six years.

His wife and a sister survive him.

Dr. Ralph Gregory Beachley,

Arlington, died January 25. He was seventy-three years of age and received his medical degree from George Washington University in 1920. Dr. Beachley had been public health director for Arlington County for twenty-seven years before his retirement in 1965. He was the recipient of the Welburn Award of the Arlington County Medical Society in 1965. Dr. Beachley had been a member of The Medical Society of Virginia for eighteen years. He was a past president of the Metropolitan Health Officers' Association, a former director of the Social Hygiene Society of the District and a fellow of the Royal Society of Health in London.

Dr. Lewis.

The sudden passing of Dr. A. W. Lewis, Jr., brought sorrow to a large number of devoted patients, innumerable friends, and colleagues, who had known him well for many years and valued his usefulness to his fellow man.

Dr. Lewis was graduated from the Medical College of Virginia and served his internship at Johnston-Willis Hospital. He returned to King William and was associated with his father, the late Dr. A. W. Lewis, Sr., at Ayletts for a few years and later practiced alone.

Dr. Lewis was a past president of the Midtidewater Medical Society.

Therefore Be It Resolved:

(1) That the Midtidewater Medical Society convey to the family of Dr. Lewis its deepest sympathy,

(2) That a copy of this resolution be sent to the family, a copy be sent to the Virginia Medical Monthly, and a copy be spread on the minutes of this society.

Malcolm H. Harris, M.D., *Secretary*
Midtidewater Medical Society



Photo professionally posed.

No injection after all!

This penicillin produces high, fast levels—orally.

Pen•Vee® K is usually so rapidly and completely absorbed that therapeutic penicillin levels are attained within 15 to 30 minutes. Thus it can often obviate the need for penicillin injections. The higher serum levels produced generally last longer than with those of oral penicillin G.

Indications: Infections susceptible to oral penicillin G: prophylaxis and treatment of streptococcal infections; treatment of pneumococcal, gonococcal, and susceptible staphylococcal infections; prophylaxis of rheumatic fever in patients with a previous history of the disease.
Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.
Warnings: Acute anaphylaxis (may prove fatal unless promptly controlled) is rare but more frequent in patients with previous penicillin sensitivity, bronchial asthma or other allergies. Resuscitative (epinephrine, aminophylline, pressor amines) and supportive (antihistamines, methylprednisolone sodium succinate) drugs should be readily available. Other rare hypersensitivity reactions include nephropathy, hemolytic anemia, leucopenia and thrombocytopenia. In suspected hypersensitivity, evaluation of renal and hematopoietic systems is recommended.
Precautions: In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.
Adverse Reactions: (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").
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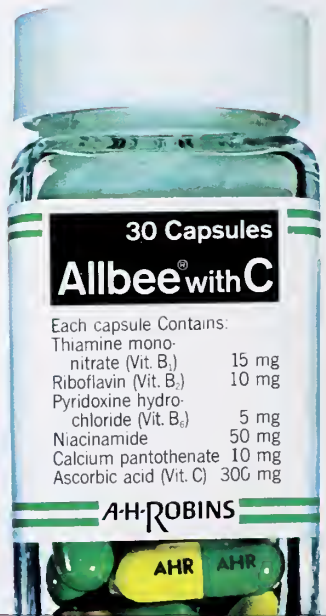
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Warnings: Administer cautiously to patients who have previously exhibited a hypersensitivity reaction (e.g., blood dyscrasias, jaundice) to phenothiazines. Phenothiazines are capable of potentiating central nervous system depressants (e.g., anesthetics, opiates, alcohol, etc.) as well as atropine and phosphorus insecticides. During pregnancy, administer only when necessary.

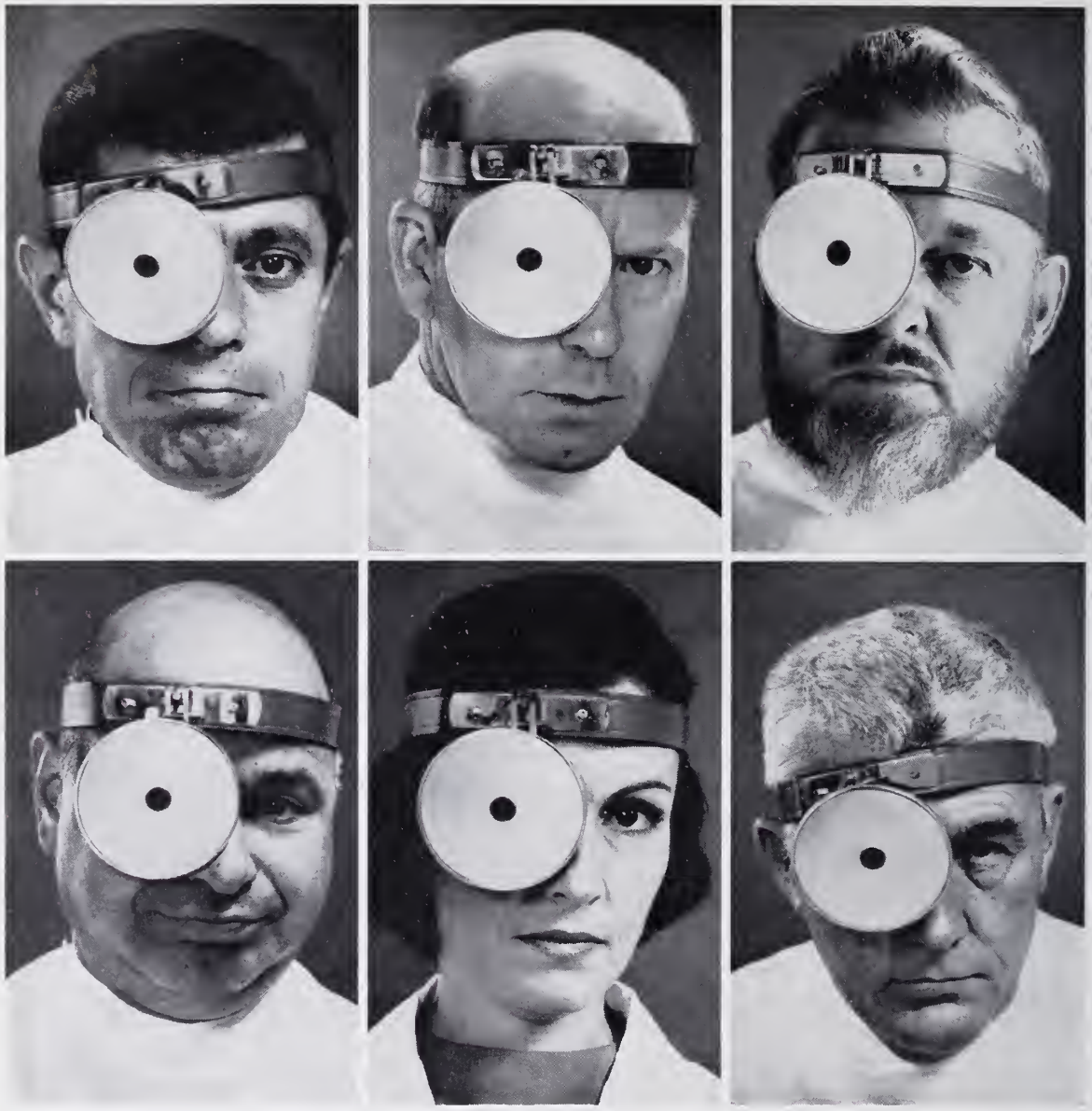
Precautions: There have been infrequent reports of leukopenia and/or agranulocytosis and convulsive seizures. In epileptic patients, anticonvulsant medication should also be maintained. Pigmentary retinopathy may be avoided by remaining within the recommended limits of dosage. Administer cautiously to patients participating in activities requiring complete mental alertness (e.g., driving). Orthostatic hypotension is more common in females than in males. Do not use epinephrine in treating drug-induced hypotension. Daily doses in excess of 300 mg. should be used only in severe neuropsychiatric conditions.

Adverse Reactions: *Central Nervous System*—Drowsiness, especially with large doses, early in treatment; infrequently, pseudoparkinsonism and other extrapyramidal symptoms; nocturnal confusion, hyperactivity, lethargy, psychotic reactions, restlessness, and headache. *Autonomic Nervous System*—Dryness of mouth, blurred vision, constipation, nausea, vomiting, diarrhea, nasal stuffiness, and pallor. *Endocrine System*—Galactorrhea, breast engorgement, amenorrhea, inhibition of ejaculation, and peripheral edema. *Skin*—Dermatitis and skin eruptions of the urticarial type, photosensitivity. *Cardiovascular System*—Changes in the terminal portion of the electrocardiogram have been observed in some patients receiving the phenothiazine tranquilizers, including Mellaril (thioridazine hydrochloride). While there is no evidence at present that these changes are in any way precursors of any significant disturbance of cardiac rhythm, several sudden and unexpected deaths apparently due to cardiac arrest have occurred in patients previously showing electrocardiographic changes. The use of periodic electrocardiograms has been proposed but would appear to be of questionable value as a predictive device. *Other*—A single case described as parotid swelling.

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Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

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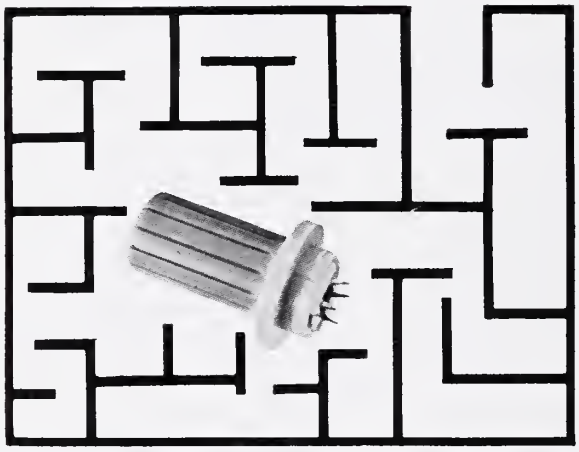
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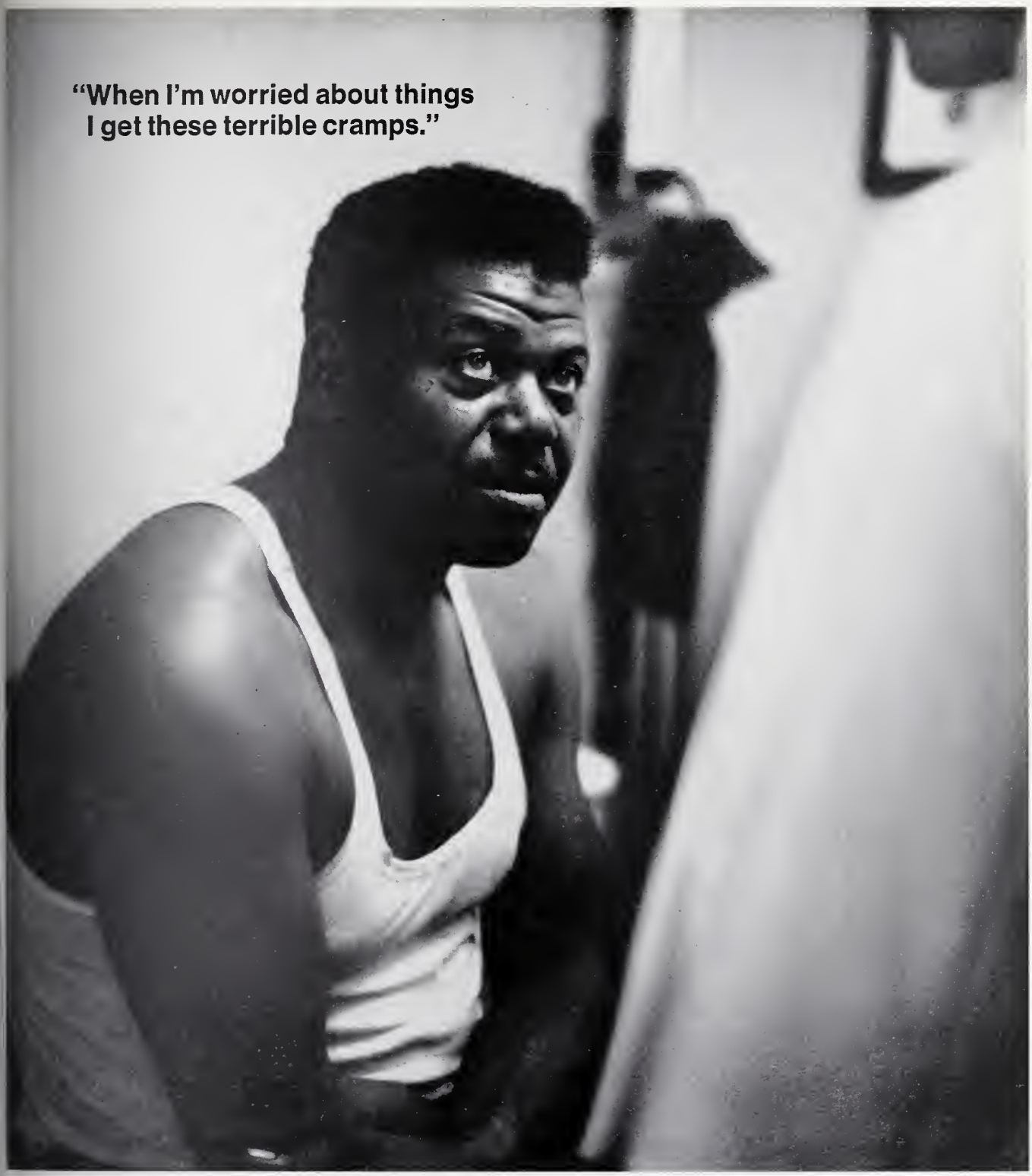
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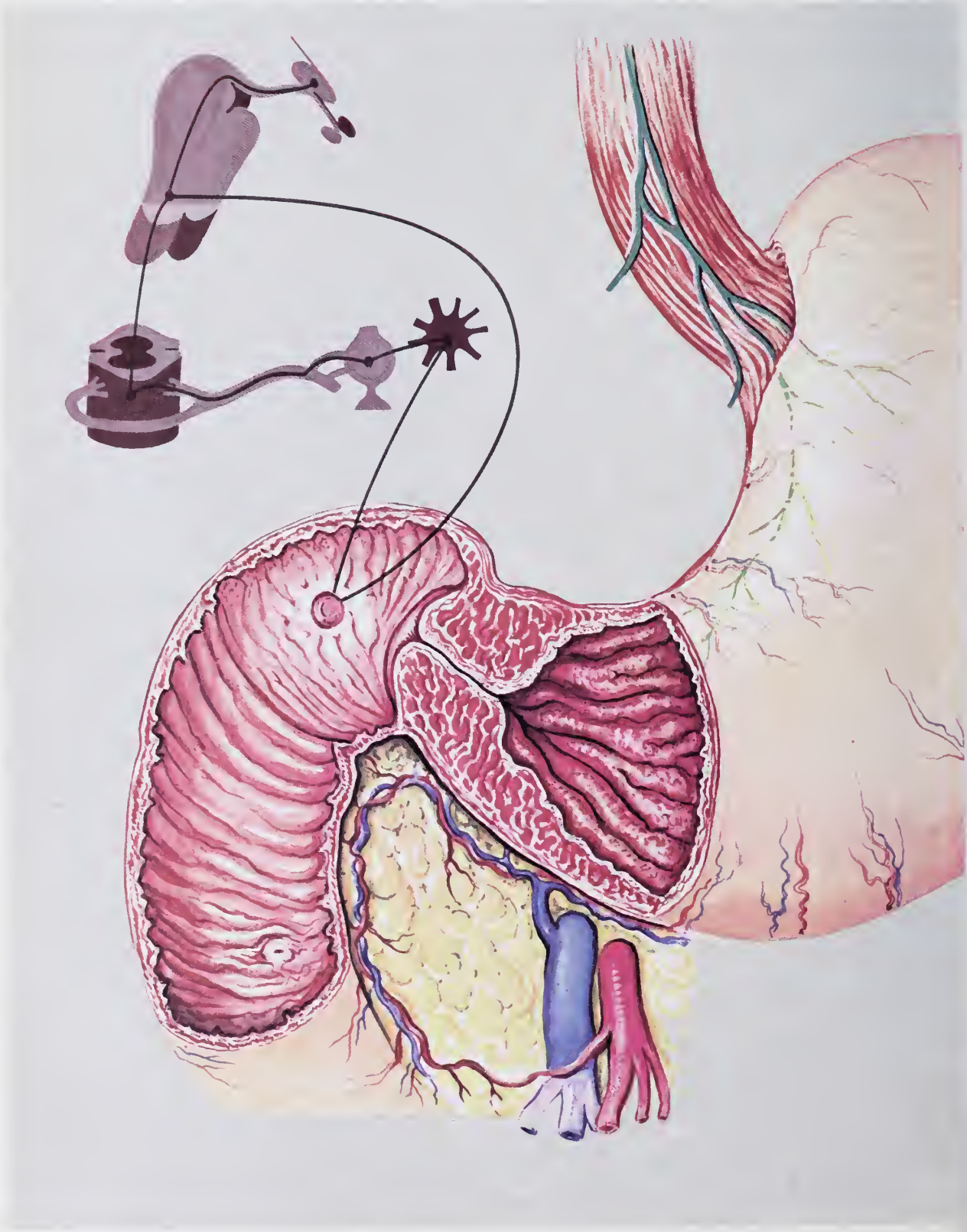
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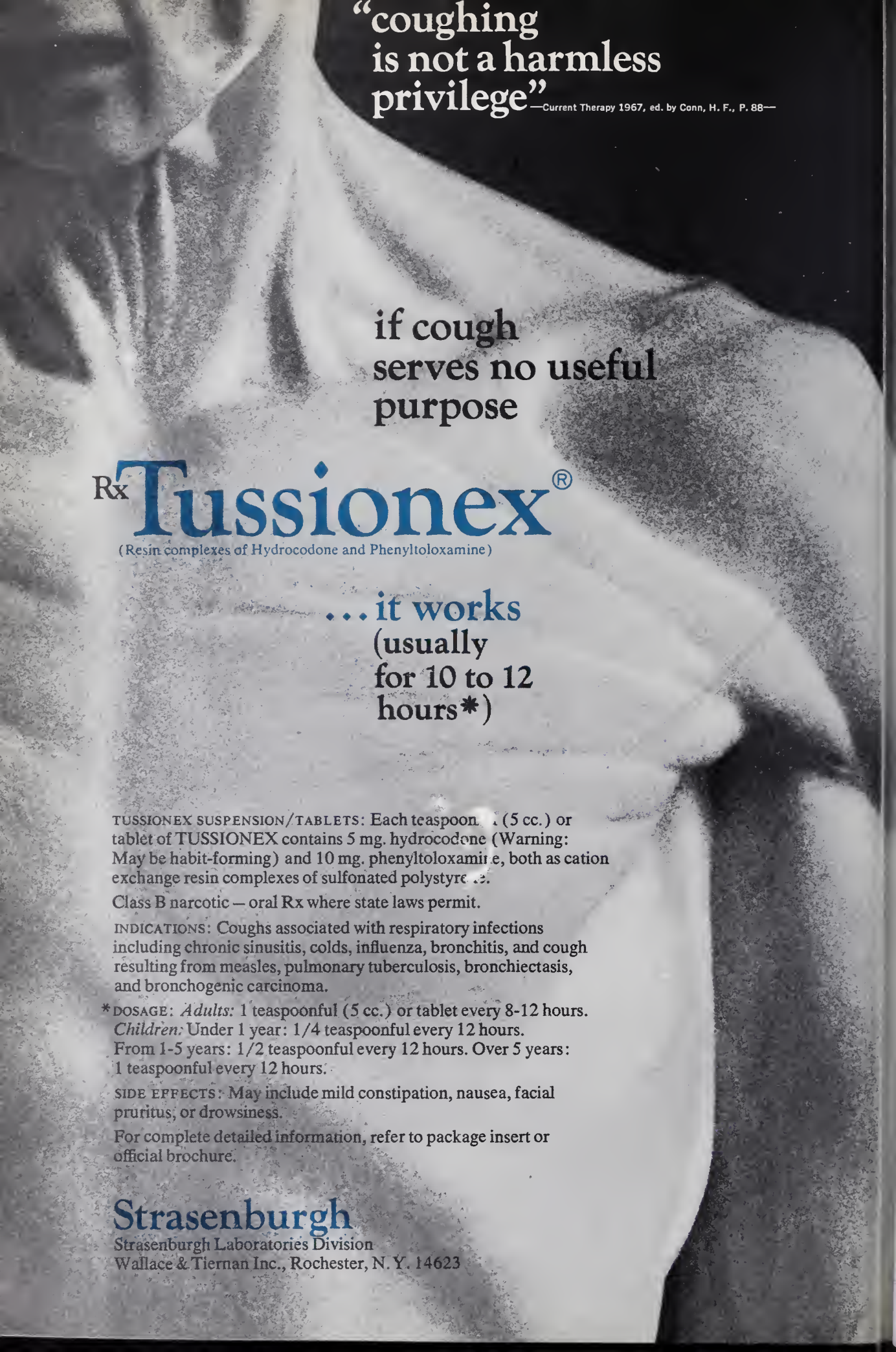
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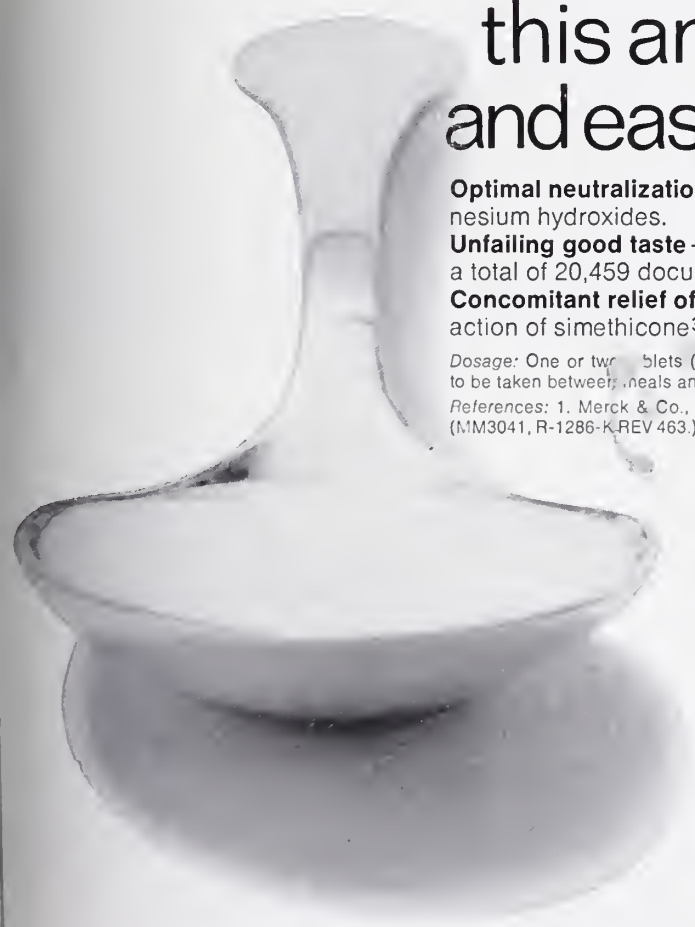
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SIDE EFFECTS: May include mild constipation, nausea, facial pruritus, or drowsiness.
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the thousandth teaspoonful

Peptic ulcer patients find the thousandth dose of this antacid as effective and easy-to-take as the first!



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Concomitant relief of G. I. gas distress — provided by the proven antiflatulent action of simethicone[3].

Dosage: One or two tablets (well chewed or allowed to dissolve in the mouth); one or two teaspoonsful to be taken between meals and at bedtime, or as directed by physician.

References: 1. Merck & Co., Merck Chemical Division: Antacid Literature Survey, Rahway, New Jersey. (MM3041, R-1286-K REV 463.) 2. Danhof, I.E., report on file. 3. Hoon, J.R.: Arch. Surg. *93*:467 (Sept.) 1966.

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aluminum and magnesium hydroxides *plus* simethicone

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(diazepam)

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).
Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.
Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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MAY 1969

MEDICAL MONTHLY

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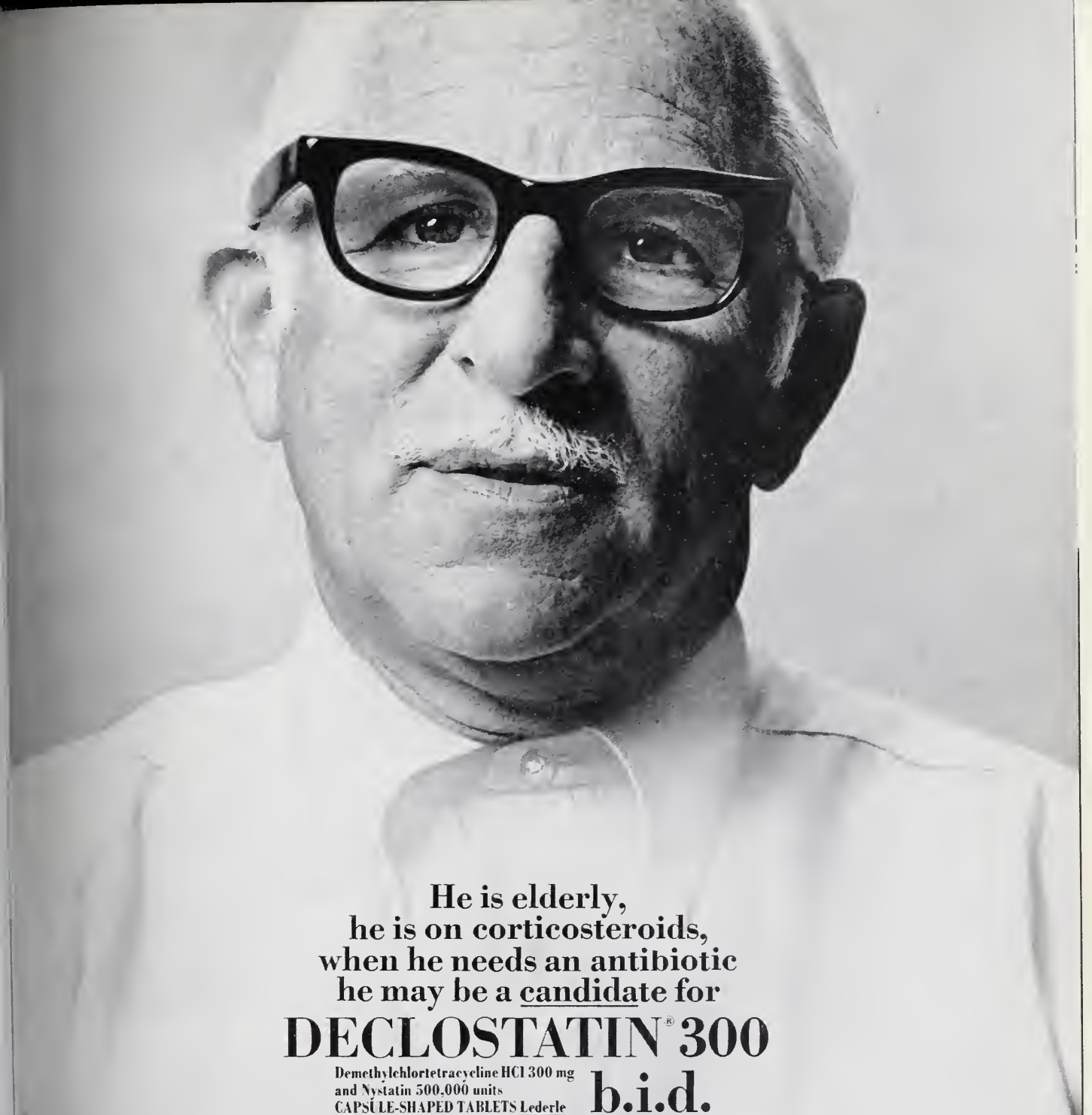
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DECLOSTATIN® 300

Demethylchlortetracycline HCl 300 mg and Nystatin 500,000 units CAPSULE-SHAPED TABLETS Lederle

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To guard susceptible patients against intestinal monilial overgrowth during broad-spectrum therapy—the protection of nystatin is combined with demethylchlortetracycline in DECLOSTATIN.

For your susceptible candidates, prescribe DECLOSTATIN—the broad-spectrum therapy that prevents monilial overgrowth.

Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken.

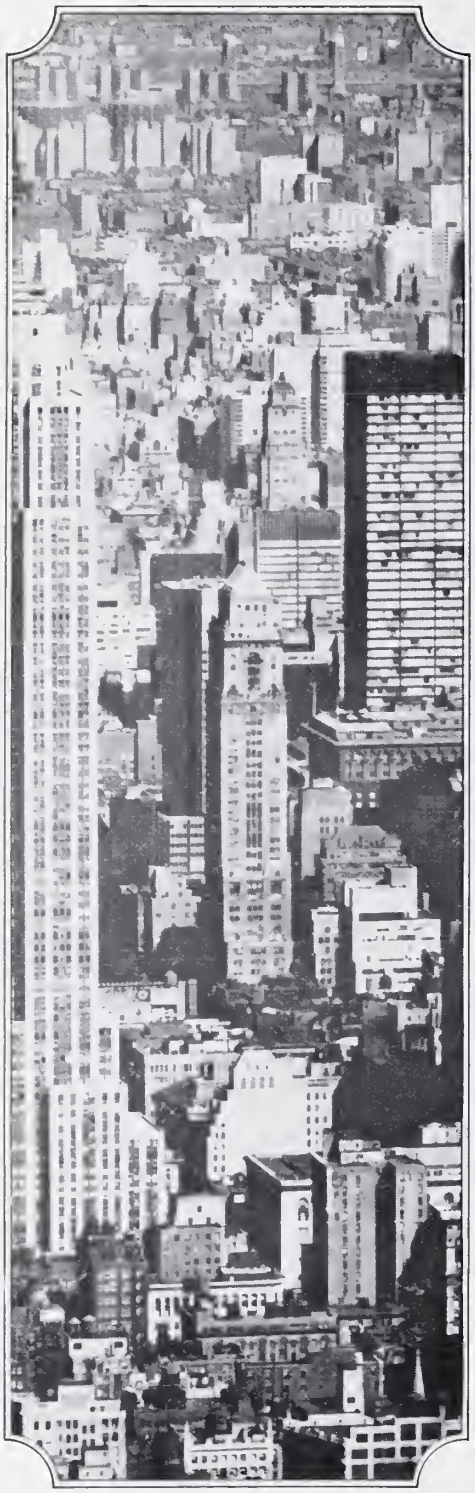
In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, food and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

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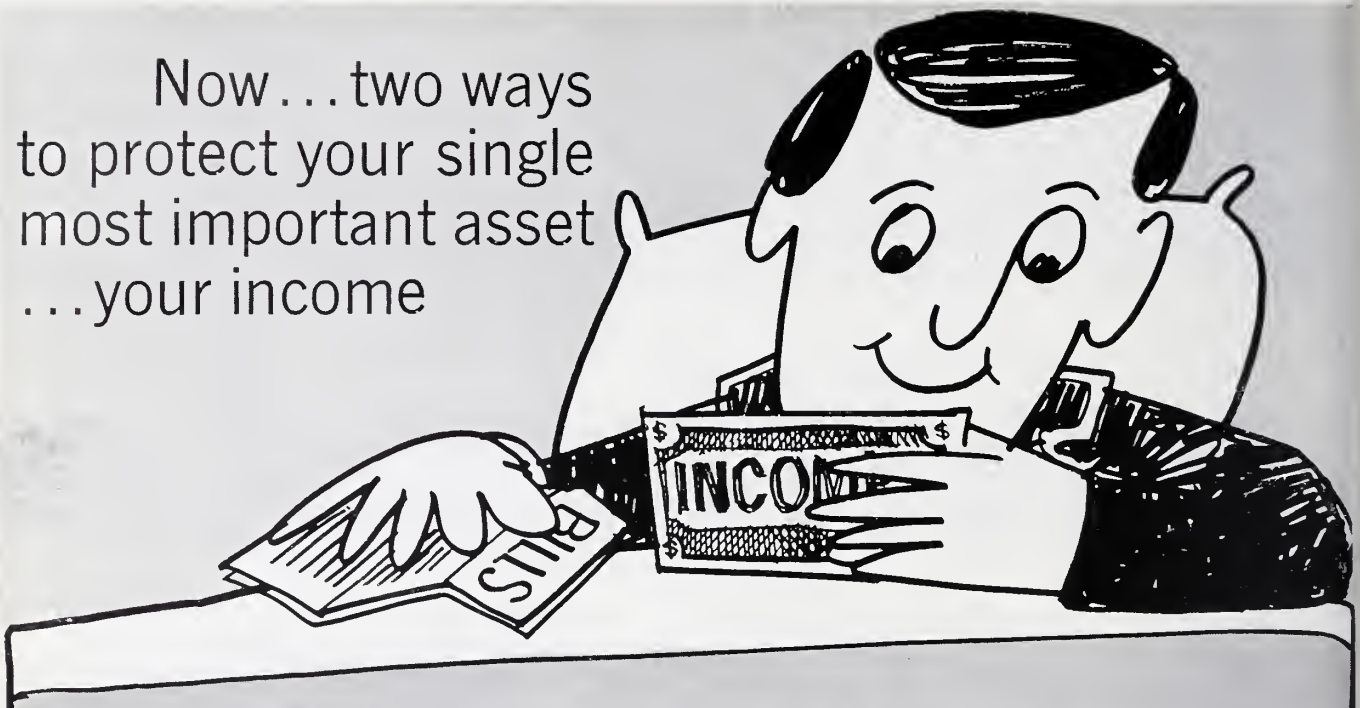
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OFTEN... HER LOWER G. I. TRACT



Psycho-abdominal Distress: Frequently Female

Women aged 15 to 45 appear to be more prone than men to bloating, cramping pain of stress-related intestinal disturbances such as irritable or spastic colon.[1,2]

Frequently Recurrent

In the experience of many physicians, women are more likely to reappear time after time with repeated complaints of lower G.I. distress.

Requiring Definitive Therapy

Often needed is therapy adequate to control both the somatic and the emotional components of psycho-abdominal complaints.

Definitive Dual Therapy

'Milpath' contains a proven synthetic anticholinergic useful for relieving hypermotility, spasm, and hypersecretion of the gastrointestinal tract.

In addition, 'Milpath' provides a time-tested tranquilizer for mild but effective anti-anxiety action.

With Flexible Dosage

- 'Milpath'-400 (meprobamate 400 mg. + tridihexethyl chloride 25 mg.) Usual adult dose: 1 tablet *t.i.d.* and 2 at bedtime.
- **When less tranquilization is required: 'Milpath'-200 (meprobamate 200 mg. + tridihexethyl chloride 25 mg.)**

Wallace Pharmaceuticals/ Cranbury, N. J. 08512

gently but firmly

MILPATH®

(meprobamate + tridihexethyl chloride)

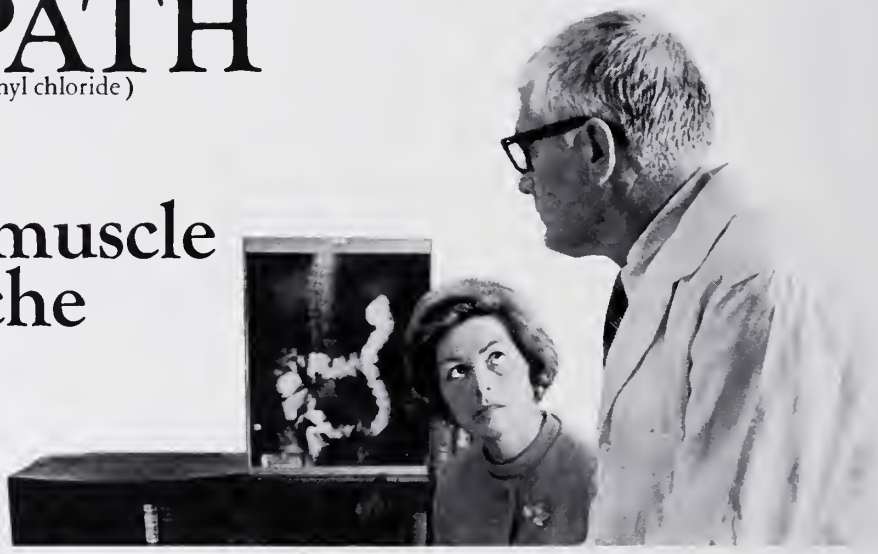
relaxes smooth muscle and psyche

Please see the following page for brief summary of prescribing information.

Gently but firmly MILPATH®

(meprobamate + tridihexethyl chloride)

Relaxes smooth muscle and psyche



Usual Adult Dosage

One 'Milpath'-400 tablet, three times a day at mealtimes, and two at bedtime. For greater anticholinergic effect, two 'Milpath'-200 tablets, three times a day at mealtimes and two at bedtime. Doses of meprobamate above 2400 mg. daily not recommended.

Indications

Useful in organic and functional disorders with hypersecretion and hypermotility of G.I. tract, especially when accompanied by anxiety, neurosis, or tension states. Should be used as an adjunct to all other therapeutic measures.

Contraindications

Tridihexethyl chloride: Urinary bladder-neck obstructions, e.g., prostatic obstruction due to hypertrophy; pyloric obstructions because of reduced motility and tonus: organic cardiospasm (megaesophagus); glaucoma; possibly in stenosing gastric or duodenal ulcers with significant gastric retention.

Meprobamate: Previous allergic or idiosyncratic reactions to meprobamate.

Precautions

Tridihexethyl chloride: Use cautiously in elderly males (possible prostatic hypertrophy).

Meprobamate: Carefully supervise dose and amounts prescribed. Consider possible dependence or habituation (reported occasionally after excessive use), particularly in severe psychoneurotics, alcoholics, ex-addicts. Withdraw gradually (one or two weeks) after excessive dosage for weeks or months to avoid recurrence of pre-existing symptoms (e.g., anxiety, anorexia, insomnia) or withdrawal reactions (e.g., vomiting, ataxia, tremors, muscle twitching; rarely, epileptiform seizures, more likely in those with CNS damage or latent convulsive disorders). If drowsiness or visual disturbance occurs, reduce dose and advise against activity requiring alertness (driving, machinery operation). Effects of excess alcohol may be increased. Grand mal seizures possible in persons with both petit and grand mal. Prescribe cautiously in small amounts to patients with suicidal tendencies. Prescribe with caution to patients with known sensitivity to compounds of similar chemical structure, e.g., carisoprodol.

Side Effects

The following side effects of components may occur with 'Milpath'.

Tridihexethyl chloride: Severe effects rare on recommended dosage. Anticholinergic effects: dry mouth (fairly frequent at oral doses of 100 mg.), constipation or "bloated" feeling. Possible: tachycardia, dilation of pupils, increased ocular tension, weakness, nausea, vomiting, headache, drowsiness, urinary hesitancy or retention, dizziness.

Meprobamate: Drowsiness, sometimes with ataxia, usually controlled by decreasing dosage, occasionally with aid of central stimulants (e.g., amphetamine). Rarely, allergic or idiosyncratic reactions (usually after one to four doses); in mild form: itchy, urticarial or erythematous, maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever, transient leukopenia, and one fatal bullous dermatitis (after meprobamate and prednisolone) reported. More severe, very rare hypersensitivity: fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (one fatal), anuria, anaphylaxis, stomatitis and proctitis. Treat symptomatically (e.g., epinephrine, antihistamines, possibly hydrocortisone); stop and do not restart the drug. Isolated agranulocytosis, thrombocytopenic purpura, one fatal aplastic anemia reported, but only in presence of known toxic drugs, porphyric symptoms reported but relationship not established. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation reported by one observer. Fixed drug eruption with meprobamate and cross reaction to carisoprodol reported.

Suicidal attempts may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse, and death. Excessive dosage has led rapidly to sleep, then reduction of vital signs to basal levels. Empty stomach, and if respiration becomes very shallow and slow, cautiously give CNS stimulants (e.g., caffeine, pentylenetetrazol, amphetamine); also pressor amines if indicated.

Supplied

In two strengths:

'Milpath'-400: Yellow, scored tablets.

'Milpath'-200: Yellow, coated tablets.

Before prescribing, consult package circular.

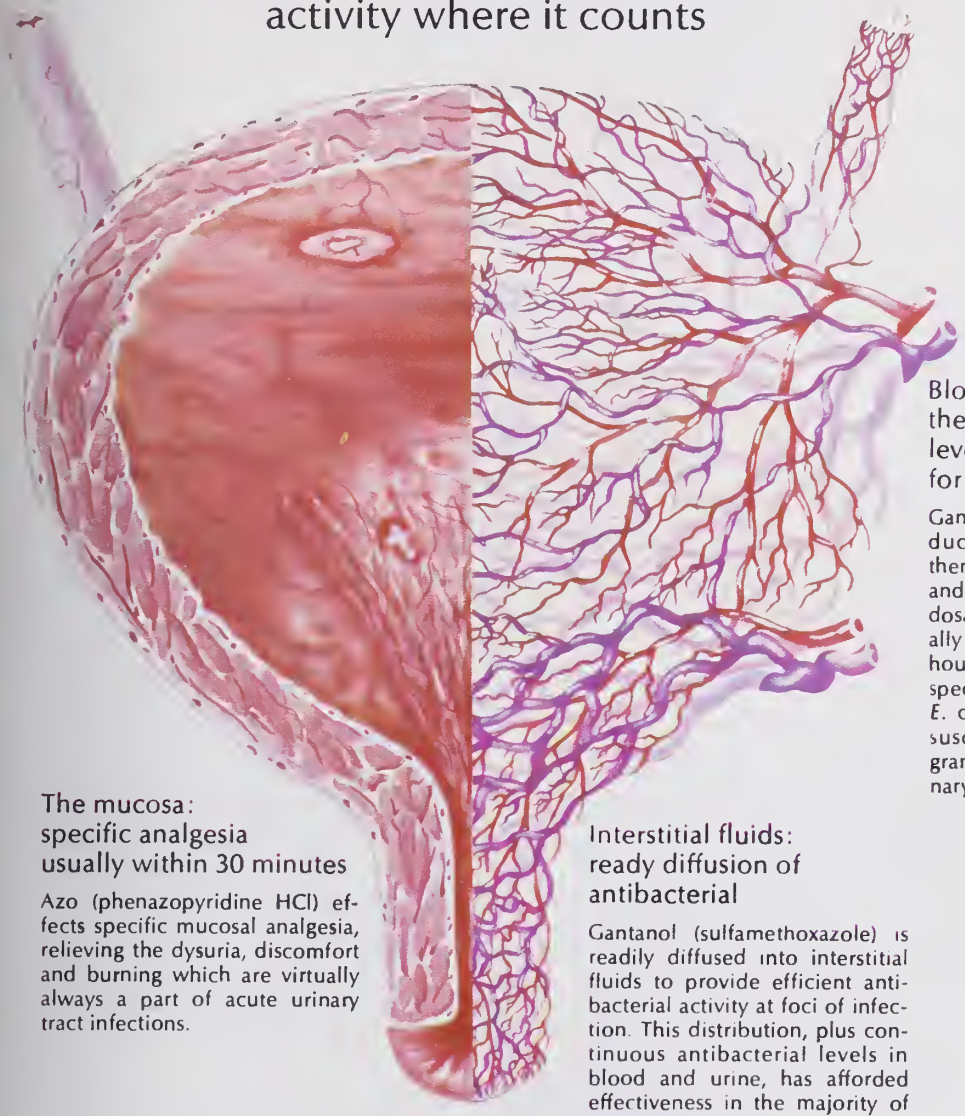
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1. Harrison, T. R., et al.: Principles of Internal Medicine, Fifth Edition, New York, The Blakiston Division, McGraw-Hill Book Company, 1966, p. 1019. 2. Bockus, H. L.: Gastroenterology, Second Edition, Philadelphia & London, W. B. Saunders Company, 1964, Vol. II, p. 729 et seq.

(1928A01J)

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The mucosa: specific analgesia usually within 30 minutes

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Gantanol (sulfamethoxazole) is readily diffused into interstitial fluids to provide efficient antibacterial activity at foci of infection. This distribution, plus continuous antibacterial levels in blood and urine, has afforded effectiveness in the majority of infections in which it has been used.

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Gantanol (sulfamethoxazole) produces prompt and prolonged therapeutic levels, in both blood and urine, with convenient *b.i.d.* dosage. Clinical response is usually obtained within 24 to 48 hours. The wide antibacterial spectrum of Gantanol includes *E. coli* and a variety of other susceptible gram-negative and gram-positive pathogens in urinary tract infections.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Urinary tract infections with associated pain or discomfort when due to susceptible organisms; prophylactically in urologic surgery, catheterization and instrumentation.

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, newborn infants during the first three months of life, glomerular nephritis, severe hepatitis, uremia and pyelonephritis of pregnancy with gastrointestinal disturbances.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

Precautions: Observe usual sulfonamide therapy precautions including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus and rickettsial infections.

Adverse Reactions: Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-Johnson syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

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Azo Gantanol®

(Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.)



Preludin® phenmetrazine hydrochloride

Preludin is indicated only as an anorexigenic agent in the treatment of obesity. It may be used in simple obesity and in obesity complicated by diabetes, moderate hypertension (see Precautions), or pregnancy (see Warning).

Contraindications: Severe coronary artery disease, hyperthyroidism, severe hypertension, nervous instability, and agitated prepsychotic states. Do not use with other CNS stimulants, including MAO inhibitors.

Warning: Do not use during the first trimester of pregnancy unless potential benefits outweigh possible risks. There have been clinical reports of congenital malformation, but causal relationship has not been proved. Animal teratogenic studies have been inconclusive.

Precautions: Use with caution in moderate hypertension and cardiac decompensation. Cases involving abuse of or dependence on phenmetrazine hydrochloride have been reported. In general, these cases were characterized by excessive consumption of the drug for its central stimulant effect, and have resulted in a psychotic illness manifested by restlessness, mood or behavior changes, hallucinations or delusions. Do not exceed recommended dosage.

Adverse Reactions: Dryness or unpleasant taste in the mouth, urticaria, overstimulation, insomnia, urinary frequency or nocturia, dizziness, nausea, or headache.

Dosage: One 25 mg. tablet b.i.d. or t.i.d. Or one 75 mg. Endurets tablet a day, taken by midmorning.

Availability: Pink, square, scored tablets of 25 mg. for b.i.d. or t.i.d. administration, in bottles of 100 and 1000.

Pink, round Endurets® prolonged-action tablets of 75 mg. for once-a-day administration, in bottles of 100 and 1000. (B)R3-46-560-B

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For complete details, please see full prescribing information.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York 10502

She runs a good chance of losing weight.

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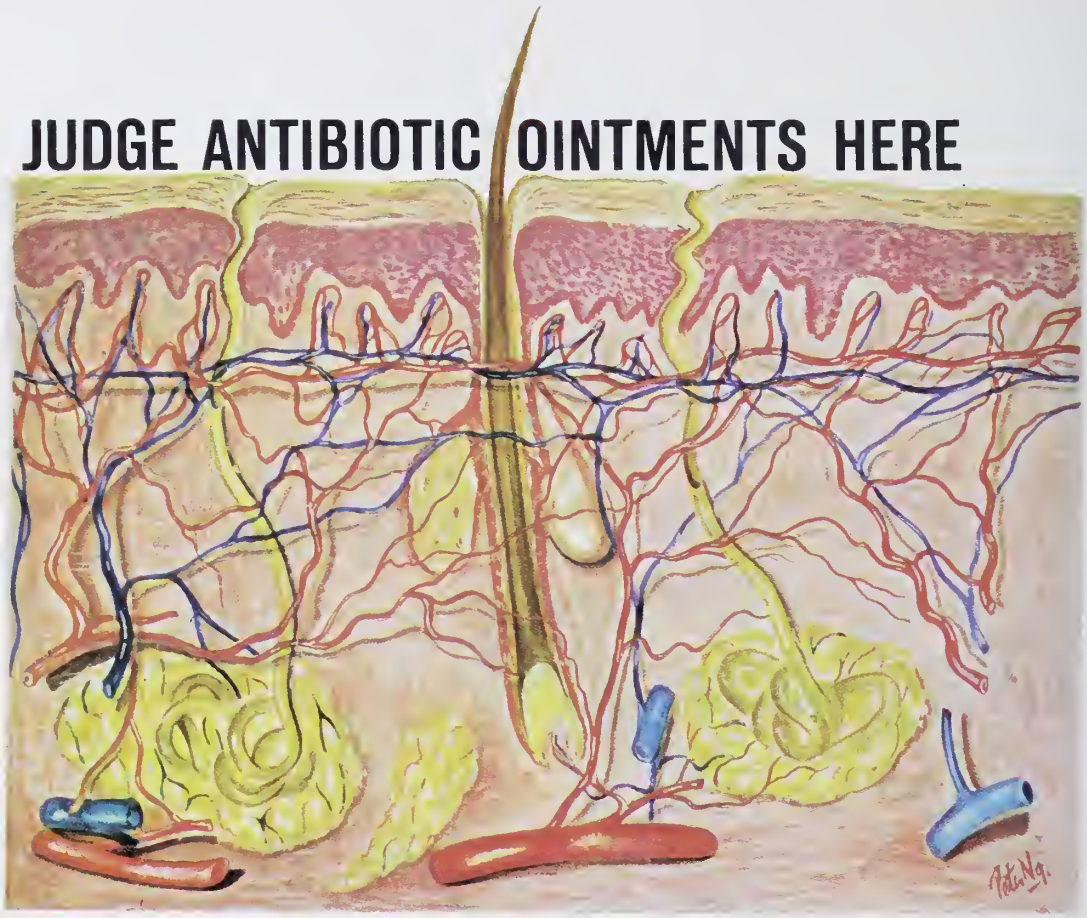
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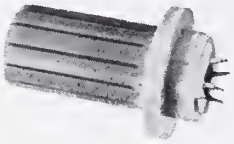
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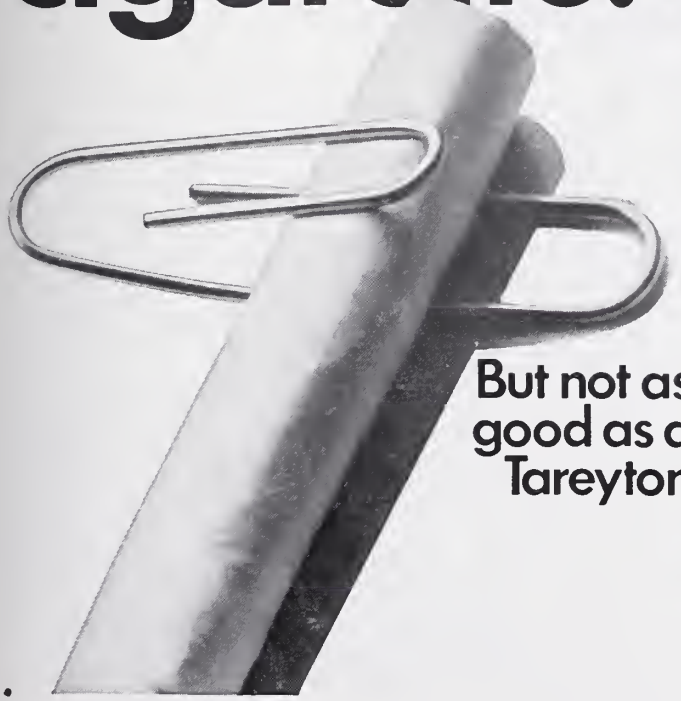
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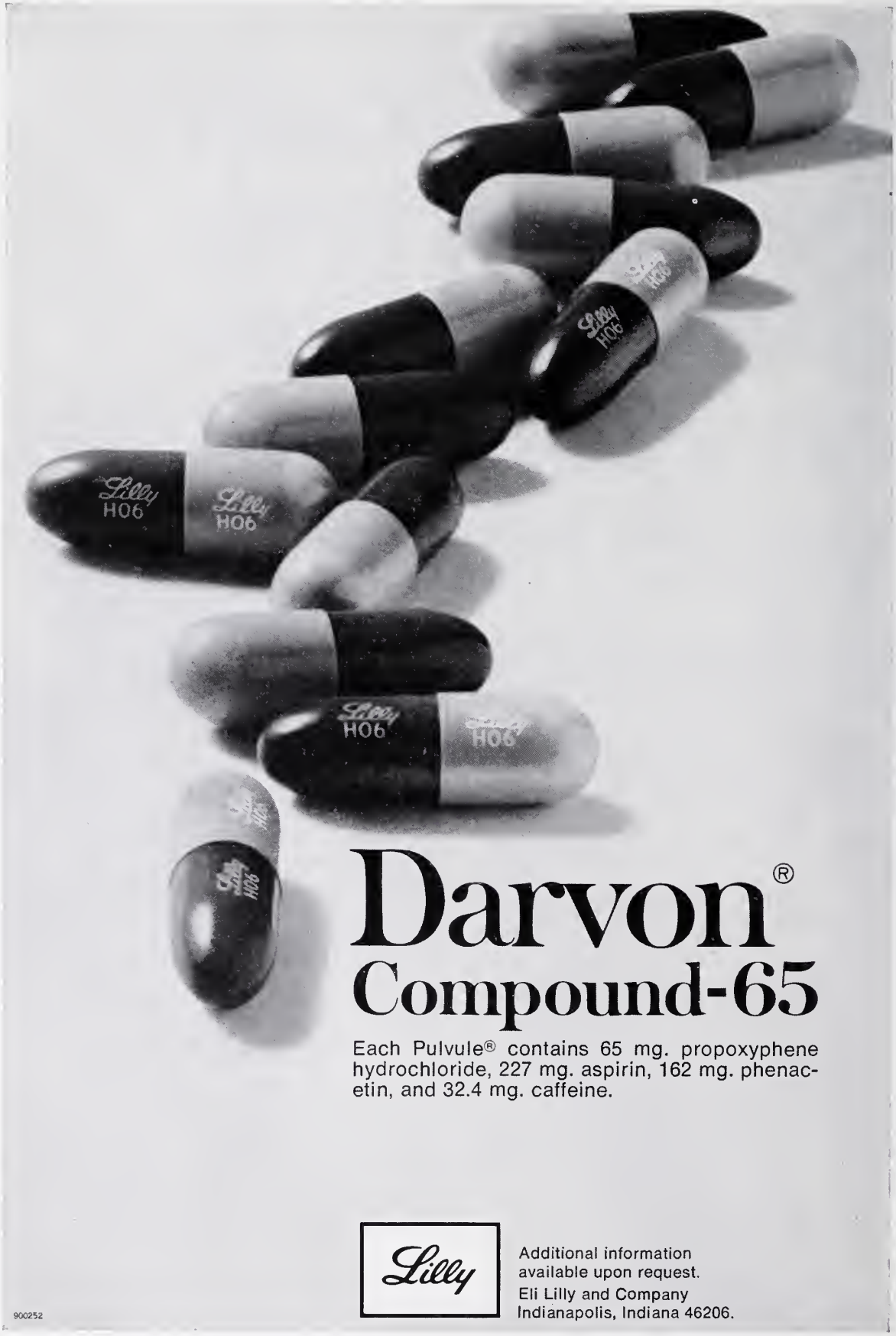
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Guest Editorial . . .

The Costs of Medical Care

THE MEDICAL PROFESSION has always been concerned with the costs of health care.

In earlier years this was comparatively simple to control. The dollar was essentially stable. The vast majority of patients were treated from onset of sickness to recovery either in the physician's office or at the patient's home. Hospitals were reserved for only the most major illnesses. There was no prepaid insurance to stimulate the patient's demand for hospitalization for minor illness or diagnostic procedures.

But the medical care of these bygone days seems to have been a bargain only to the most superficial observers. Surely, it was not inexpensive when pneumonia or tuberculosis claimed more lives than heart disease and cancer.

Almost everything in the health care and cost equation has changed drastically in the past few years. However, one important factor remains constant. This is the inflexible code of the medical profession which insists that everyone shall have the best medical care we can provide regardless of his ability to pay.

One of the most significant changes is a reversal in the ratio of supply and demand. In an increasingly affluent society, the public demands more and better medical care, and gets it. But in meeting this demand, the resources of the purveyors of health care are often strained to the breaking point. This applies to all types of personnel, professional and ancillary, as well as the physical plant. This supply and demand ratio exerts tremendous upward pressure on all cost factors.

In spite of this the medical profession has made a sincere effort to hold firm. Physicians' fees have increased 103% from 1945 to 1966 or less than 4% a year. This is less than one-half the increase of such union

labor as truckdrivers (229.6%) and building trade workers (208.3%). But even these latter increases are trivial compared to what is happening this year:

In Ohio recently the bricklayers won an increase of $4.10 per hour over a two year period. This brings the basic wage to $9.75 per hour and represents an increase of 72% in two years.

At last report the sheet metal workers were demanding a flat 100% increase over a two year period to $10.28 per hour.

Pipefitters draw $10.45 per hour in some areas. Consider these wages with time and one-half or double time pay for overtime.

This, of course, represents flagrant economic irresponsibility. Wages such as these exert pressure all the way down the line since wages and prices in all fields are basically competitive.

In the face of the above let us as physicians continue to try to hold the line and provide the best medical care we can at a price all can afford to pay. But let us continue to have pride in our profession in the knowledge that it is not we who are stoking the fires of inflation. Let us utilize every opportunity to emphasize the much greater increment in hospital costs (which is essentially a labor cost) than in physicians' fees.

The recent federal administration which tolerated without serious objection wage increases as those cited above, and then decried rising medical prices, must accept a major part of the blame.

The costs of medical care are not being pushed up within the profession, but are rather being escalated by increasing costs throughout the whole economy.

W. S. Hotchkiss, M.D.

702 Medical Tower
Norfolk, Virginia

Coronary Insufficiency and Myocardial Revascularization

WILLIAM H. MULLER, JR., M.D.
Charlottesville, Virginia

Until coronary insufficiency can be prevented, the surgical approach will be used with increasing frequency in treating patients with this disease.

BY HONORING THE RENOWNED SURGEON for whom this lecture is named, those privileged by invitation to present the John Shelton Horsley Lecture are indeed also honored, for the mark that this truly great surgeon has left imprinted upon the profession is broad and indelible. This resulted from his tireless energy, imagination, creativity and industry. Although he expected much from his associates, it is said that he himself worked harder than any other. These attributes caused him to receive many of the highest honors that the profession could bestow. Perhaps he is best remembered for his broad interest in general surgery in the true sense of the word and particularly neoplastic diseases. It seems especially appropriate that his grandson who is here this evening is the director of the neoplastic disease program at the University of Virginia Medical Center.

Among Dr. Horsley's most original and visionary experiments was the implantation of a rubber tubular prosthesis to replace the dog's abdominal aorta in 1912. This animal was sacrificed at the end of six months, and the prosthesis had thrombosed, but paraplegia had not resulted because adequate collateral circulation had developed.

In addition to his other endeavors, Dr. Horsley was a prolific writer. Among his numerous contributions to the literature, I found his monograph entitled "Surgery of the Blood Vessels" most enlightening and informative reading.[1] In it he includes nearly every phase of vascular surgery beginning with the structure and histologic repair of the blood vessels and including the technique of suturing blood vessels, reversal of the circulation, blood transfusion, hemorrhage, thrombosis and embolism, aneurysms, and hemorrhoids, and concluding with a chapter germaine to my discussion this evening entitled "Transplantation of the Anterior Temporal Artery". This procedure was designed to maintain viability in a segment of skin and tissue of the forehead, so that it could be transplanted elsewhere on the face to fill large defects.

Dr. Horsley died just as the renaissance in cardiovascular surgery was beginning. Had he lived during the past 22 years, he undoubtedly would have contributed significantly to the solution of the problem about which I am talking this evening: that is, coronary insufficiency and myocardial revascularization.

Coronary artery disease presents one of the greatest challenges to physicians and surgeons because of its great prevalence, its insidious development and sudden manifestation, and the difficult problems in management it may present. Shock, in the presence of myocardial infarction, is the great-

The John Shelton Horsley Memorial Lecture, May 7, 1968.

From the Department of Surgery, University of Virginia Medical Center, Charlottesville.

est cause of death in the patient who does not die immediately, and some patients in irreversible shock may be unequivocable candidates for heart transplantation. However, it is the patient who has severe angina indicating extensive coronary artery disease, or the one who has had a myocardial infarct followed by severe angina, whose treatment I wish to discuss.

The surgical approach to these problems is somewhat analogous to that for chronic relapsing pancreatitis, because so many different operations have been devised in an effort to achieve benefit for these patients. They may be categorized into four basic approaches, which are (1) the production of a new arterial blood supply, (2) production of venous stasis or reversal of the coronary circulation, (3) indirect methods to improve myocardial circulation, and (4) a direct surgical attack on the coronary arteries. The impetus for much of what has evolved today is due to the persistent efforts of Dr. Claude Beck,[2] who designed the first procedure involving a direct surgical approach to increase the collateral blood supply to the heart, which he reported in 1935. He thought that by producing a sterile pericarditis by means of mechanical abrasion of the epicardium and inner surface of the pericardium, the normally existing extracoronary anastomoses between the heart and pericardium, which had been described by Hudson and Moritz,[3] would increase.

Others later used similar procedures but different means of producing sterile pericarditis. The most successful was Thompson,[4] who applied talcum powder to the surface of the abraded heart and employed it in a large group of patients. In a review of 14 years of experience, 90 per cent of his patients were thought to have a 50 per cent improvement and 40 per cent more than a 75 per cent improvement. The criteria for improvement was somewhat nebulous. Dack and Gorelick[5] and Harken[6] and others reported success with this or a modified operation, but it never gained widespread popularity for the treatment of angina. The use of flaps or pedicle grafts, which included mediastinal fat or retrosternal tissues, skeletal muscle, skin and subcutaneous tissue, omentum, lung, jejunum, stomach, and almost any structure with a blood supply which could be brought into apposition with the surface of the heart were employed. Reversal of the coronary circulation by anastomosing a graft from the aorta to the distally ligated coronary sinus proved unsuccessful, because most of the blood failed to pass through the smaller myocardial circulation and entered the heart through the thebesian system. Occlusion or partial occlusion of the coronary sinus was likewise of no value because it did not stimulate the development of intercoronary anastomoses as had been anticipated. However, most of these operations had been based upon experimental work in the dog, and the dog's intercoronary vascular bed and potential vascular bed is much richer than that in the human being. It is probable that the information thus obtained was not applicable to the human heart and is largely responsible for clinical failure of these procedures.

The first indirect surgical approach to the treatment of coronary artery disease was through operations on the sympathetic nervous system. The original investigators were of the opinion that operations upon the sympathetic nerve supply of the heart would actually increase the vascular flow to the heart. It is now generally conceded that division of the sensory nerve fibers of the heart results only in relief of the pain of angina pectoris. However, nearly every conceivable manipulation of the sympathetic nervous system was advocated at one time or another.

Another approach was that of total thyroid ablation. In the early twentieth century, Kocher[7] observed that relief of cardiac insufficiency occurred in a patient following total thyroidectomy, and Hamilton[8] noted that congestive heart failure in patients with hyperthyroidism was favorably

affected by total thyroidectomy. In the 1920's Boas and Shapiro[9] performed subtotal thyroidectomies in a series of patients in an attempt to alleviate the cardiac symptoms with equivocable results. The use of total thyroid ablation as a means of relieving the symptoms of angina pectoris and congestive failure was first suggested by Blumgart, Levine and Berlin,[10] the theory being that decreased metabolic requirements of the heart would allow it to function more efficiently in the presence of its reduced vascular supply. Blumgart[10] analyzed a series of 95 patients with angina of whom 47 per cent received excellent results following total thyroidectomy. Other surgeons reported similar results. However, by the mid-1940's this operation has been largely abandoned because the beneficial results were not considered sufficient to justify the hazards of a significant mortality rate, a high incidence of tetany and recurrent laryngeal nerve injury, to say nothing of the development of severe myxedema.

What might be considered the most ineffective operation ever devised for coronary insufficiency was bilateral ligation of the internal mammary artery. It was conceived by Fieschi, an Italian internist, and originally performed by Zoja and Bianchi in 1939.[11] It was designed to increase the blood supply by utilizing previously recognized channels between the internal mammary and the coronary artery systems. Glover[12] introduced it in this country in the mid-1950's and reported excellent clinical improvement in 68 per cent of his cases following this treatment with no demonstrable improvement in 11 per cent. The operation was done in large numbers by numerous surgeons probably because of such reports, the virtual absence of risk, and its simplicity. A number of investigators, including Vansant et al.[13] of Norfolk, demonstrated in the laboratory that internal mammary artery ligation did not affect coronary artery blood flow. The reported improvement in patients was undoubtedly psychological.

Those who have dealt with patients complaining of chest pain are fully aware of the difficulty of making a diagnosis of angina pectoris in the absence of objective information. Although it is obvious that surgeons were anxious to develop and apply operations to improve the myocardial blood supply, selection of patients based on the presence of organic coronary artery disease was not placed on a sound footing until the introduction of selective coronary angiography by Sones[14] in the late 1950's. This special roentgenogram delineated the location and extent of obstruction, thus allowing the surgeon to select patients more accurately and plan the proper operation. Prior to this time, patients had been selected on the basis of symptoms and electrocardiographic and roentgenologic findings.

Pratt[15] first suggested the clinical application of coronary thrombectomy in 1954. Although Bailey[16] reported six patients in 1957 upon whom endarterectomy had been performed successfully, there was some question about the effectiveness of the procedure, because it was done through the coronary ostia by an instrument which supposedly reamed the atheromatous plaque from the vessel. Longmire and Cannon[17] were the first to perform it by careful incision of the artery and extraction of the occluding atheroma. This was done without the use of the pump oxygenator but carried with it an acceptable mortality rate at that time, and initial results were encouraging. However, evaluation of their patients several years later showed that the majority had re-occluded their coronary arteries. Sabiston,[18] using selective coronary angiography, also performed endarterectomies on a series of patients with localized lesions using a pump oxygenator and effected an improvement in a high percentage of these patients. However, rethrombosis occurred in several of his patients. As a result, he now selects patients for endarterectomy who have a short localized occlusion in a large coronary artery.[19] More

recently, Sawyer and his associates[20] have used gas endarterectomy to remove long segments of occluding atheroma in several patients. While they have had encouraging results on the right coronary artery, the left has had an associated prohibitive mortality rate. They point out that this technique removes atheromatous plugs from tributaries as well as from the main vessel. The discouraging feature of endarterectomy is the frequency of distal disease not demonstrated angiographically and the tendency for rethrombosis to occur. Recently, Effler[21] reported a high degree of success in more than 40 patients upon whom he resected the area of occlusion and substituted an autogenous saphenous vein graft.

Today, however, the most widely used and successful operation is the implantation of the internal mammary arteries into the myocardium beyond the point of obstruction. This procedure was devised by Vineberg,[22] who reported his original studies in 1946. The basic theoretical consideration relates to the presence of myocardial sinusoids into which blood from open branches of the internal mammary arteries pass. The distal coronary vasculature is often free of significant disease after leaving the surface of the heart and penetrating the myocardium. Vineberg[22] showed that the implanted vessel will form arterial buds in 12 to 14 days and arterial anastomotic communications in 10 to 12 weeks. However, in order for this to occur, there must be an adequate demand by the myocardium secondary to ischemia produced by proximal arterial obstruction. Although some surgeons, including Bigelow and Walker,[23] applied this technique clinically in the late 1940's and early 1950's, most would not accept the claim that actual anastomotic channels were formed, and that additional oxygenated blood reached the myocardial cell. It was after repeated demonstrations by Sones[14] of true intercoronary anastomoses that Effler[21] and others performed these operations in great numbers. There is little doubt now that there is a significant increase in the myocardial blood supply, and that the patients are relieved of their symptoms or greatly improved in a high percentage of instances. In addition, Vineberg reports that the internal mammary artery remains open in approximately 70 per cent of human cases when examined up to 10 years postoperatively. The problem of securing sufficient length of internal mammary arteries to implant in the more distal portions of the heart on the posterior or diaphragmatic surface has stimulated others to employ other means of supplying the myocardium with blood utilizing Vineberg's principle. Bloomer[24] has advocated that the splenic artery be used, and recently Spencer[25] reported clinical success in patients in whom he used this method. It is a somewhat tedious procedure requiring that the branches into the pancreas be divided, but it has the advantage in that there are usually three or four tortuous branches passing into the spleen, which can be freed for long distances. This allows multiple implants into a large area of myocardium and because the splenic artery is usually large provides a greater blood flow than that of both internal mammary arteries.

Sewell,[26] Pearce[27] and others have used one or more intercostal arteries for this purpose, and Urschel[28] has advocated division of the internal mammary artery at its origin and implantation of the distal end into the myocardium. He points out that the backflow is pulsatile, and in an experimental study indicated that 95 per cent remained patent, and 84 per cent formed collateral anastomoses with the coronary circulation. Diethrich,[29] Hufnagel,[30] Lillehei[31] and others have implanted an autogenous saphenous vein graft from the aorta or the subclavian artery into the myocardium. This procedure was tried initially experimentally and proved to have a high patency rate. Lillehei[31] has reported its application in 32 patients with four hospital deaths and no late deaths over a period extending to 24

months. All of the surviving patients showed dramatic relief of symptoms. This method has the obvious advantage of virtually unlimited vessel length. However, it has not been used widely, and most surgeons prefer an adjacent expendable artery.

From the foregoing, it is quite easy to ascertain that myocardial revascularization procedures are still in an evolutionary, developmental stage. However, certain facts seem reasonably well confirmed: (1) that in selected patients coronary endarterectomy or a patch graft or both will restore coronary blood flow; (2) that an artery implanted into the myocardium will establish anastomoses with a coronary artery distal to its occlusion; (3) that the Vineberg procedure can be accomplished with a low mortality rate and a high expectation of alleviation of symptoms or marked symptomatic improvement; (4) that the implanted artery will remain patent for long periods of time as evidenced by 70 per cent in 10 years in Vineberg's[32] series.

The selection of patients is important. At the present time, we recommend operation for patients with severe angina pectoris uncontrolled by medical therapy, who show organic disease by coronary angiography. Myocardial infarction is not a contraindication but should not have occurred within four to six months prior to operation. Patients over 60 years of age are considered more cautiously, as are those with extensive three vessel disease. Congestive heart failure, cardiomegaly, and high left ventricular and diastolic pressures contraindicate operation.

Our own experience thus far is small. We have operated upon 18 patients during the past year and one-half with one hospital death and one late death. The hospital death was in a 58-year-old male who had had previous left ventricular failure and did have cardiomegaly associated with severe three vessel disease. All of the surviving patients have shown alleviation of symptoms or improvement, and four studied by postoperative angiography after six months to a year show the establishment of anastomoses between the implanted artery and the distal coronary artery.

The number of patients with this disease appears to be endless and, in fact, ever increasing. The ideal answer to treatment is obviously prevention by some metabolic alteration which prevents its development. Until then, however, it appears that one of the currently available operations should be recommended in carefully selected patients.

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An Emergency Air-Ground Transport System for Newborn Infants with Respiratory Distress Syndrome

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This paper describes an emergency air-ground transport system which has been used successfully to transport newborn infants with Respiratory Distress Syndrome to the Roanoke Memorial Hospitals at Roanoke.

The special equipment which has been developed for ventilating the distressed newborn will not be available commercially for about one year. In an effort to make this equipment available immediately to physicians and the distressed infants, the Virginia Polytechnic Institute at Blacksburg has established an emergency air-ground transport system.

RESPIRATORY DISTRESS in the newborn infant has been the largest single cause of death during the first week of life. About 17% of all premature infants are affected by respiratory distress and about half of these die. About 25,000 infants expire each year in the United States.[1] This number represents between 30% and 40% of all newborn deaths.[2] Nearly half of the infants weighing less than three and a half pounds who now survive their respiratory distress may be mentally defective.[3] Dr. J. F. Lucey, writing in the January, 1968, issue of "Hospital Practices", cites a study carried out at the Boston Lying-In Hospital where it was found that mortality among premature infants accounted for 71% of all live-born infant deaths. The death rate in low birth weight infants was said to have shown ". . . no improvement in 21 years. . .".

These grim statistics do more than suggest that high risk infants delivered in the average hospital in this country face great hazards. Indecision, uncertainty, and delay in resuscitation and treatment can result in irreversible anoxic tissue damage to the brain and other vital organs. The tragic results, many times ascribed to immaturity rather than anoxia, are known all too well. The wait-and-see, hands-off procedures, using oxygen and buffer therapy alone for treating respiratory distress has been proved inadequate by experience.

Newborn Intensive Care Nurseries are needed throughout the country. However, the specially trained personnel and new

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equipment designed specifically for the newborn infant are not generally available.

A dramatic decrease in infant morbidity and mortality rates has been achieved when nursing personnel, trained in the use of a special infant respirator, blood-gas, and physiological monitoring equipment, have been available.[4,5] The average survival rate which can be expected for all infants weighing no more than 1,000 grams (two pounds-three ounces) is about 10% to 15%.[6] These figures include those not afflicted with Respiratory Distress Syndrome (R.D.S.) In contrast, the survival rate for infants weighing no more than 1,000 grams, with all 19 infants with respiratory distress, in a study by Arp, et. al., and reported in the (May-June) and the (July-August) 1969 issues of *Anesthesia and Analgesia,* was 31.7%. Special equipment for treating the distressed infant provided a similar striking improvement in the survival rate for infants weighing no more than 1,500 grams (three pounds-five ounces) where the normal survival rate for all infants in this weight group, including those who were not in respiratory distress, is about 29.3%. The survival rate in the study by Arp, et. al., for 42 infants, with all infants in respiratory distress, and weighing no more than 1,500 grams, was 47.6%.

A Plan for the Immediate Future

It is unlikely that every hospital will be able to assemble and train a team of specialists to cope with the vexing problems associated with the distressed newborn in the very near future. In addition, the special infant respirators needed for the successful treatment of newborn Respiratory Distress Syndrome will not be generally available for some time. Blood-gas analyzing and physiological monitoring equipment is expensive and requires very skilled and specially trained nurses and/or technicians. Personnel with this specialized training are not readily available. The most difficult problem to solve, however, is that of convincing the nursing supervisors and the hospital administrators that each distressed newborn must have a graduate or licensed practical nurse for uninterrupted observation and attention as long as the physician carries the infant on the "critical" list. Each graduate or licensed practical nurse can manage two infants only after the patient is removed from the "critical" list.

In view of the requirements just outlined, it becomes very clear that all hospitals cannot, in the very near future, support and operate an Intensive Care Nursery as it must be structured in order to reduce today's tragic infant morbidity and mortality rates. Intensive Care Nurseries must be established in population centers to provide the best medical care known today to the largest number of people. Infants from less populated areas will need to be transported to these specially staffed and equipped Intensive Care Nurseries. New transport systems must be devised to reduce the time and risks involved in moving the high risk patients to the centers before the patient becomes critically ill. Physicians will be called upon to make the decision to transfer patients long before they can be absolutely certain that the patients will not survive in the average hospital. The patients must be viable when they arrive at the Intensive Care Nursery. New equipment and techniques cannot perform the miracle of restoring life to the dead.

A very general plan has been outlined for supplying the best medical care known for the distressed newborn. This plan has been put into operation by the Virginia Polytechnic Institute, Blacksburg, Virginia, in cooperation with the Roanoke Memorial Hospitals, Roanoke, Virginia.

A New Transport System for Infants with R.D.S.

A twin engine Beechcraft airplane has been made available by Virginia Polytechnic Institute's President, Dr. T. Marshall Hahn, Jr., for transporting newborn infants with

respiratory distress from hospitals lacking the needed specialized staff and equipment to the Intensive Care Nursery at the Roanoke Memorial Hospitals. The transport service described in the following pages will be available at the request of physicians and without charge until the new infant respirator becomes available commercially. The V.P.I. airplane can land at any hard surfaced airport having a runway at least 2,800 feet long. The runway must be lighted for a night flight. The service may be obtained any time of the day or night that the airplane and infant respirators are not in use. To obtain this service or information, call Dr. L. J. Arp, Area Code 703-552-6574 or Area Code 703-552-1162, or Mr. R. E. Dillon, Area Code 703-552-2507.

Figures 1, 2, and 3 show the airplane equipped with an ARP Infant Respirator, an Armstrong Servo-Control Incubator,* a solid state static inverter† to convert the airplane's 28 volt power supply to 117 volts, and a redundant oxygen supply. The volunteer flight crew includes the pilot, Mr. E. S. Warner, the co-pilot, Mr. Bill Byrne, L. J. Arp, Ph.D., Mr. R. E. Dillon, and Mary Tom Long, M.D., or C. L. Boatwright, M.D.

When a request is received for emergency air transportation for a distressed infant, the physician in charge of the transfer is requested to "stand by" at the hospital with the infant in a warm incubator containing an atmosphere of 100% oxygen. As the pilot approaches the pick-up point and a precise landing time becomes known, the control tower is requested to call the waiting physician to give him the landing time. If refueling is required the completion time for this operation is passed on to the physician so that there is no delay in the transfer of the infant to the airplane system. The infant in respiratory distress is transferred to the special holding and positioning fixture in the Armstrong Incubator. A restraining blanket is placed around the holding fixture as a safety belt for the infant. After respiratory assistance is started with the Arp Infant Respirator, using a nose mask as the patient-machine interface, the airplane is ready to take off for the Roanoke airport.

As the pilot nears the Roanoke airport and the arrival time becomes known, the control tower is requested to notify the Intensive Care Nursery at the Roanoke Memorial Hospitals of the arrival time. Figure 4 shows the specially equipped ambulance with redundant oxygen supply, a battery powered inverter to supply 117 volts, alternating current to power the incubator and the self-contained respirator which is dispatched with a nurse from the Intensive Care Nursery to meet the arriving patient. The incubator is transferred from the airplane to the ambulance support system without interrupting respiratory assistance. The ambulance support system is then rolled up a special ramp into the waiting ambulance (as shown in figure 5). The entire portable unit is then clamped securely in place to prevent any shifting of the unit during the trip from the airport to the hospital. Respiratory assistance remains uninterrupted as the infant is transferred from the ambulance, up the elevator and into the Intensive Care Nursery.

Use of the battery powered respiratory support unit from the ambulance is not limited to the transfer of distressed infants from the airport to the hospital. This unit is used to supply respiratory support for infants during transfer from near-by hospitals to the Intensive Care Nursery when it is either impossible or impractical to use the airplane. The portable unit is on stand-by in the delivery suite and in surgery for all deliveries and Caesarean sections. The unit is also used to supply uninterrupted respiratory support while the infant is transported to the x-ray department, during radiological

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* Supplied by Ohio Medical Products, Inc., 1400 E. Washington Avenue, Madison, Wisconsin.

† Supplied by Communications Measurements Laboratory, Inc., 350 Leland Avenue, Plainfield, New Jersey.

observations, and while using the x-ray intensifier. It has been observed that an interruption in respiratory support for even a minute or two can trigger irreversible changes in the patient which will cause death.

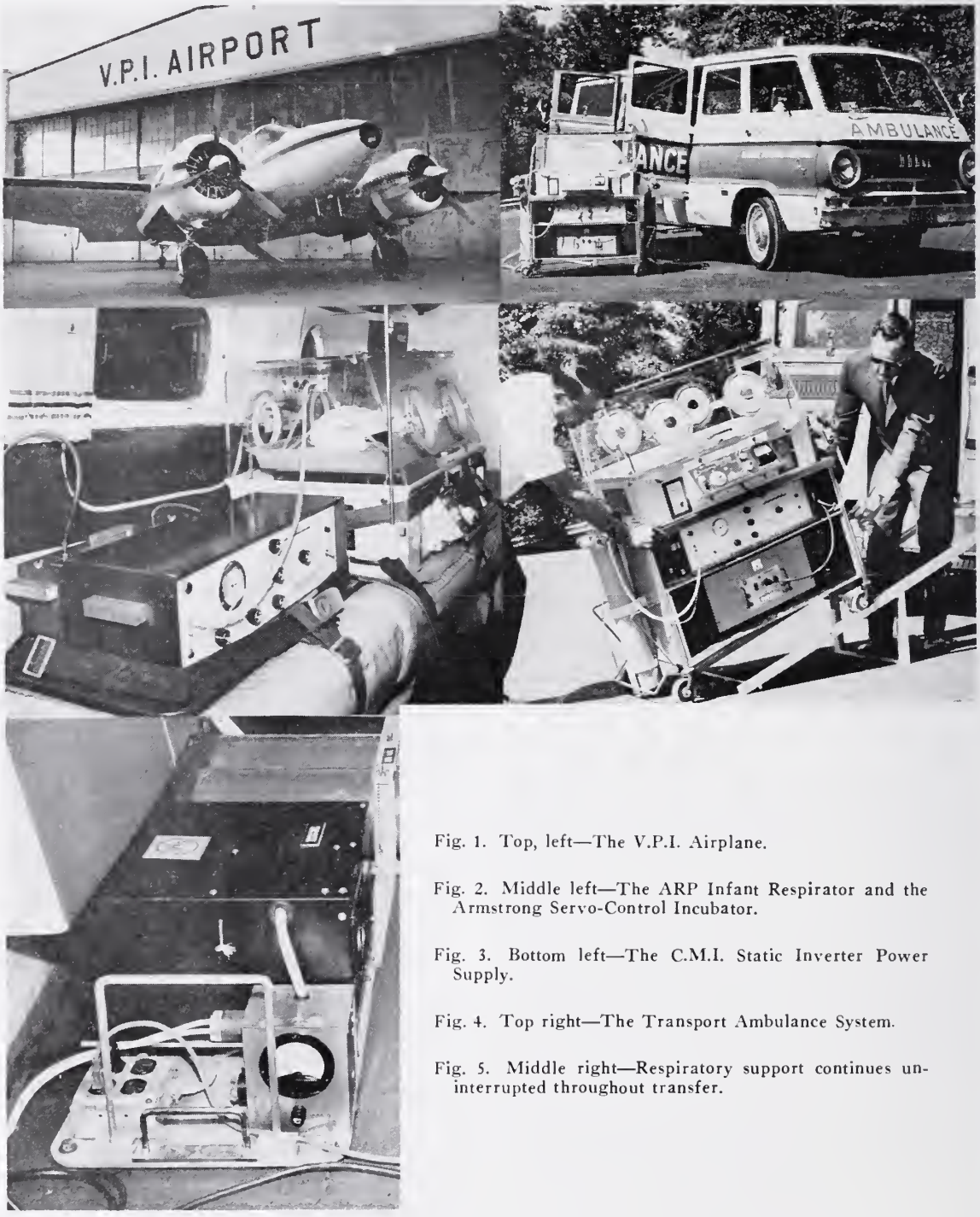


Fig. 1. Top, left—The V.P.I. Airplane.

Fig. 2. Middle left—The ARP Infant Respirator and the Armstrong Servo-Control Incubator.

Fig. 3. Bottom left—The C.M.I. Static Inverter Power Supply.

Fig. 4. Top right—The Transport Ambulance System.

Fig. 5. Middle right—Respiratory support continues uninterrupted throughout transfer.

Conclusions

The degree of success in reducing newborn infant morbidity and mortality by supplying respiratory assistance is directly related to the condition of the infant at the time he is provided that assistance. It has been found that the transfer is generally an exercise in utter futility if the referring physician delays in transferring the distressed infant until he is quite sure that the

infant will not survive in the local hospital nursery. The concept of the absolute necessity for an early transfer and start of intensive and comprehensive support for the distressed infant has been most difficult to convey. The last-ditch stand by a physician using oxygen and buffer therapy has been proved by experience to be inadequate in many cases. No surgeon waits for a vermiform appendix to perforate before taking a patient into surgery. Likewise, the infant with R.D.S. has the best chance for survival if respiratory assistance is started immediately after the first clinical signs of trouble are observed.

The integrated air-ground transport and support systems described in this paper have been used successfully. The key to this successful operation is teamwork. This teamwork can only be accomplished through education, training, and dedication to the idea that better treatment is possible and can become a reality through cooperative understanding and advanced planning. Once the hardware and support teams are available, the only obstacles remaining in the path leading toward success are indecision and delays.

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Let's Reminisce!

Saccharin.

This new preparation, to which Fahlberg has given the name saccharin, is not a carbon hydrate, but an aromatic derivative of anhydrous orthosulfamin-benzoic acid; and is characterized by its excessively sweet taste, being 280 times sweeter than cane sugar. It will never be substituted for sugar in household economy, because it possesses no nourishing properties; but for sweetening sour wines, and more especially for making palatable the food and drink of diabetic patients, it will prove very efficient. A curious fact is that ants, flies, wasps and bees will not touch it. Saccharin is also an antiseptic and has been repeatedly used by Fahlberg in catarrh of the bladder.—*Therap. Monatshifte,* 1880, 10-*Rundschau,* Dec. 1, 1887. (Reprinted from Virginia Medical Monthly, January 1888)

Intussusception in the Aging

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Intussusception is relatively rare in adults. It should be considered in the differential diagnosis in patients whose symptoms suggest partial obstruction, particularly when this is intermittent.

INTUSSUSCEPTION is defined as the prolapse of one part of the intestine into the lumen of the immediately adjoining part. It acquires clinical significance largely because such an invagination is almost invariably associated with the phenomena of intestinal obstruction, and for that reason it is generally considered to be a type of obstruction.[1] Intussusception is rarely considered in the differential diagnosis of intestinal disease in adults. Its ability to cause recurrent abdominal pain defying the usual diagnostic efforts has been frequently noted.[2]

Incident

It has been estimated that approximately 5% of all cases of intussusception occur in adults.[3] Brumeister[2] claims that it is not possible to determine the general incidents of the disease in adults. The incidents of intussusception in relation to the total number of medical and surgical admissions was .25-.36 cases per 1000 at Firmin Delige and St. Mary's Hospital. During the same period the incidents of the condition at the St. Louis University Pediatric Service was 2.2 cases per 1000. A. Dick and G. J. Green[4] reviewed the British-American literature from 1919 to 1947 in which they collected 685 cases of which 135 had their site in the large bowel. A. Peter Rober[5] from 1947 to 1952 found additional 122 cases in the British-American Literature. Dudley Briggs, Don Carpathios, and Richard W. Zollinger[5] found only four cases in 83,661 adult admissions to Mt. Carmel Hospital in Columbus, Ohio. Among 242,829 patients admitted to Albany Hospital in New York during the years 1929 to 1947, there were 12 cases of intussusception in patients who were 15 years of age or older.

Classification

Intussusception may be described, as has been stated above, as invagination of one section of the gastrointestinal tract into an adjacent portion. Intussusception is primary idiopathic if no initiating pathology is found and secondary if an explanatory lesion is disclosed. The different types of intussusception can be divided into two main groups —enteric and colic. These can be subdivided into four subtypes. These are the ileocolic, ileocecal, colic and enteric.

One could hardly improve on the description given by Trevis[1] of a typical intussusception and its parts. If the intussusception is cut along its longitudinal axis, it is seen to consist of six parallel layers, three on each side of the central canal. These arrange so that mucosal mucous membrane is in contact with mucous membrane, and peritoneum with peritoneum. The outermost of these forms the receding layer, the sheath or the intussuscepiens. The innermost layers are the entering layers of the intussus-

ception and the middle are the returning layers. Together these two comprise the intussusceptum.

According to Bockus[1] the etiology of intussusception is still the subject of dispute in discussion. Much uncertainty still exists as to the mechanism that brings about the prolapse of one portion of the bowel into another. Idiopathic primary intussusception, so common in children, is very rare in adults and has not been reported as a cause of intussusception in colon.[3] Specific organic lesions that may be responsible for intussusception of the colon are primary or metastatic cancer, lipomas, polyps, adenomas, fibroma, lipoma, granuloma, leiomyoma, endometrioma, and hemangioma as well as diverticula. Statistically 60% of these lesions are malignant and 32% are benign.

According to Briggs, Cartathios and Zollinger[6] clinical diagnosis of intussusception in adults unfortunately is seldom suspected; it is missed due to the rarity of the condition in adults. The usual history of chronic recurrent partial obstruction and intermittent abdominal colicky pain are the most common symptoms. Nausea, vomiting, and constipation enter into the clinical picture, as the obstruction gradually becomes complete. Blood and mucous in the stools occur less often in adults than in infants. Palpable abdominal tumor also is an unreliable finding because it may or may not be present. Brumeister[2] found a mass in only 66% of the patients with ileocecal intussusception; 43% of those with enteric ones. Pain after meals is only sporadically mentioned according to Andrew Munster.[7] However, Brumeister[2] listed this symptom in 1962 as an aid in diagnosis of the twelve patients with ileocolic intussusception. He went so far as to say that even benign tumors, when intussuscepting, give rise to excessive weight loss, possibly related to the aversion to food and water because of the accentuation of pain and fear of it.

Therefore, colicky abdominal pain coming on after the intake of food or drinking may be an early symptom of chronic intussusception in adults. The patient in this case report exhibited this symptom, which may be a very important differential point to ascertain during the history and physical on these elderly people.

According to Krasner,[3] x-ray studies should be carried out while symptoms are manifest for these are most likely to be normal while the patient is asymptomatic. The plain film of the abdomen is always worthwhile for sometimes the apex of the intussusception is visualized by an outline of the gas in the colon. A soft tissue mass in the long axis of the colon is always suggestive of intussusception. The proximal colon is markedly distended in a characteristic closed loop obstruction when the ileocecal valve is competent, otherwise dilated loops of small bowel are also prominent. Figel & Figel[8] along with other authors, Schatzki, Solis-Cohen and Levine, Helmar, Jackson, and Frimann-Dahl, have indicated that the diagnosis can sometimes be made from scout films of the abdomen only. Most are aware of the classical findings of intussusception when complete obstruction is encountered during a barium enema study. The cupola-shaped or meniscus-shaped deformity which is so often associated with compaction of mucosal folds is referred to as "accordion pleating" or concertina effect. If intussusception has not been appreciated during fluoroscopic examination of the large bowel, one may be fortunate to recognize this or suspect it on the expulsion studies. The apensor-like appearance of the barium in between the mucosal folds of the apex of intussusception has been referred to as the pitch-fork side.

Treatment

It is the consensus of all writers reviewed that the treatment for intussusception in adults is exploratory laparotomy with resection of the tumor and portion of the bowel when such is found. Kresner,[3] Briggs &

Carpathios, etc.,[6] Bockus,[1] Bonn & Roberts,[9] A. Roper,[5] Frank G. Mundy and Don M. Beal[10] as well as Brumeister.[2] Paul Crane and K. Chung Lee[11] from the Presbyterian Medical Center in Korea state that parasitic manifestation may be another cause for this and should be considered. Mortality of operative reduction depends upon such factors as duration of the condition, degree of the "growth", and presence or absence of strangulation. Bockus continues to say the Perry and Lindsey series reported a mortality for laparotomy and simple reduction of 22% or 23%. It is generally recommended that no more than is absolutely necessary be done during the operation. Of course, this condition would vary greatly depending on the patient. The patient in the present case study was in excellent condition, and the resection of the right colon was well tolerated.

The case presented is interesting in that, with the exception of colicky pain coming on after intake of food, she really had nothing from her history or physical examination which would suggest that she had an obstruction, either from intussusception or from any other cause. She had lost weight, the exact amount of which was not accurately determined.

Case Report

Our patient, V.C., was a 74 year old white single female who was admitted with her chief complaint, "I've had diarrhea off and on since Christmas." She was feeling her usual self at Christmas time, when she had an episode of what she thought was intestinal flu with rather marked diarrhea. This reoccurred in about one month. Again, after improvement she went along fairly well until the past month (March, 1968) when she had practically continuous loose stools. She stated that these came on with no apparent reason, and she was unable to control them. Since the onset of her problem, she had pain in the epigastrium which had been present off and on as rather cramping in nature and bothersome. *She had become afraid to eat any kind of food, as she thought this might aggravate her problem.* She was rather tender in the left upper quadrant near the mid-epigastrium, but this now had apparently improved somewhat. Since her plans for admission to the hospital had been arranged she stated that she was actually better than she had been since March. Review of the systems revealed problems related to a toxic thyroid goiter, arteriosclerotic heart disease, otherwise nothing too remarkable for a person of this age.

Physical examination: Physical examination revealed a rather emaciated elderly white female lying flat on the table apparently in no distress. The skin was dry, of poor turgor. Eyes showed a grade 1 arteriosclerotic change in the optic fundi. The mouth was edentuous. Her thyroid gland was rather nodular extending down through the sternal notch. Heart rate was 100-120, with relatively regular rhythm, then at other times she would drop to 80 per minute with what sounded like a typical premature contraction and slow atrial fibrillation. Examination of the abdomen showed rather poor muscular tone of the abdominal wall. There did seem to be several small firm node-like lesions in the right lower quadrant which were non-tender. The liver descended about 3 cms. below the right costal margin. Pelvic examination revealed poorly supported pelvic structures and no pelvic floor remaining. She had a large rectocele on the vaginal examination. There was a mass-like lesion appearing to protrude from the area of the cervix. Attempts to make Papanicolaou smears were not successful. The mucosa was quite dry and certainly not febrile. Pelvic examination revealed normal ovaries bilaterally with what feels to be a small uterus present. Impression at this time was to rule out malignant lesion of the colon, diarrhea, malnutrition, and weight loss.

Laboratory Studies: Hemoglobin 12.2 grams; 41% hematocrit; 10,400 white

count; PMH 60; 31 Lymphs; 5 Mono; 4 Eos.; Sed. rate was 57 mm. in 60 minutes. Urine was slightly cloudy, ph 6.0, sp. gr. 1.008; no albumin; no sugar; few epithelial cells and occasional white cells. She is Type A RH positive. Sodium was 143 meg., potassium was 4 meq and the chlorides were 99 meq. The CO_2 was 28 meq. and I_{131} uptake was 23%. Glucose was 89 mgs.%. Repeat studies on the sodium potassium chloride CO_2 on 4/22/68 and 4/23/68 showed them to be within normal limits.

The patient was brought to the x-ray department for a barium enema examination on 4/16/68. The abdomen was flat, certainly not distended, and no masses were palpated before the examination. A retention catheter was placed in the rectum and the barium enema examination begun. We noted immediately moderate distention of the upper rectum and distal sigmoid colon (Fig. 1). An abrupt halt to the barium column was noted at about the mid-descending colon area. We have eluded to the fact that the diagnosis was often not made because it is rarely ever considered in an adult. This certainly was the case in this examination. My impression at the time was that we had a complete obstruction of the colon, as we were unable to pass the barium beyond this point. The air filled bowel proximal to this area was not remarkable. A review of the x-rays certainly did not reveal any evidence of any real gas in the colon, and the gas we see is probably in the small bowel. However, in retrospect we did see the "accordion pleating" which is referred to by many of the authors, as well as the meniscus sign (Fig. 2).



Fig. 1

As a matter of interest, we suggested giving this patient a single cup of barium the next day following it through the small bowel tract. This is not recommended in case of absolute obstruction, but in this case it certainly did present a dramatic picture of the intussusception (Fig. 3). I think on this film we can see a faint amount of barium being retained in the large intussusceptum. The barium is in the small bowel



Fig. 2

and of course tapers to just a small stream as it trickles into the base of the intussusception.

Surgery: Following preparation of the bowel, the patient was operated upon on 4/22/68 through a left mid-paramedian incision, the right colon was completely mobile congenitally and the distal small bowel disappeared in the transverse colon in its distal third. The end of the intussusception



Fig. 3

could be felt low down in the sigmoid colon. With approximately fifteen minutes of pressure from below plus general traction above, this intussusception was reduced, and there was no signs of gangrene. The appendix had evidentally been removed previously, but there was a definite thickening one or two inches in size within the lumen of the tip of the cecum. This was thought at first to probably be a carcinoma or else a polyp, and this intussusception was occurring because of this plus the unusually mobile mesentery. After the patient stabilized, a right colectomy was done. After closing the abdomen the patient was in surprisingly good condition. The operation took about one hour (Fig. 4).

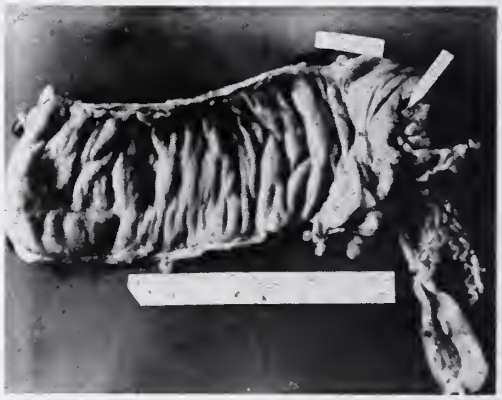


Fig. 4-A



Fig. 4-B

Pathology Report: Adenocarcinoma of the cecum. The carcinoma did not extend beyond the muscle. Eleven lymph nodes were removed showing reactive hyperplasia, but no neoplasm. A second section showed a benign cervical polyp.

The following morning the patient was well stabilized, and again having bowel movements. Four days post-operative she was put on a soft diet. She was discharged on the thirteenth post-operative day, apparently cured of her carcinoma.

Conclusion

A rather interesting case of intussusception in an adult has been presented. A review of the literature has been made, and it reveals that this condition in adults is relatively rare. The pre-operative diagnosis is

rarely made. Our patient had the one cardinal symptom which should be again emphasized: that is, colicky pain after ingestion of food and drink. I was unaware of this as a symptom before and I think it is worth mentioning again in this conclusion. Also to be re-emphasized is the fact that probably not more than fifty per cent of the cases in adults will present with a mass. This certainly complicates the usual picture of intussusception with which we are all so familiar in children. Another point to be re-emphasized is the fact that certainly "current jelly" in the stools is not a consistent finding in adults.

The clinical picture, therefore, and the x-ray findings associated with intussusception in adults are bizarre. We have noted from reviewing the literature that the preoperative diagnosis is rarely made. The barium enema is probably the most important aid in the diagnosis of this uncommon problem. I think our film of the five hour small bowel study shows a most unusual picture.

In the adult, intussusception should be considered in the differential diagnosis in patients with gastro-intestinal symptoms suggesting partial obstruction, particularly when this is of an intermittent nature. More than fifty per cent will probably be associated with a malignant tumor.

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The men who try to do something and fail are infinitely better than those who try to do nothing and succeed.

—*Source unknown*

Chronic Bromism Simulating Neurological Diseases

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Chronic bromism is relatively frequent and should not be overlooked. The diagnosis can be made easily by obtaining bromide blood levels.

THE PURPOSE OF THIS PAPER is to point out the continued, rather frequent occurrence of chronic bromism and to review its confusing neurological aspects. Most of the complaints caused by bromide intoxication bring the patient to the general practitioner, internist, psychiatrist, neurologist, or neurosurgeon. Headaches, mental confusion, drowsiness, positive Babinski sign, and occasionally increased intracranial pressure with papilledema are among the symptoms and signs found. It is believed, from one of our experiences, that chronic bromism occurs more frequently than is generally realized, and the diagnosis may be missed unless a physician awareness exists.

Chronic bromism is an intoxication caused by the chronic ingestion of preparations containing ionizable bromide in such quantities that a significantly high blood level is obtained.

Listed are some of the bromide containing drugs on the market today. The proprietary, over-the-counter drugs can be obtained without a physician's prescription or recommendation.

MORGAN, JOHN E., *Medical Student, University of Virginia, Charlottesville.*

DRUGS RELEASING BROMIDE ION IN THE BODY

Over-the-Counter Drugs

	Mgs.Br.-/dose
Alva-Tranquil	380
Bromionyl	810
Bromoseltzer	220
Elixir 3-Bromides	730
Nervine	470
Pentabromides	1000
Prescription Drugs	
Fello-Sed Elixir	400
Hypno-Bromic	330
Neo-Sedaphen	910
Neurosine	1110

Case Presentations

We have briefly summarized the case histories of two patients who were diagnosed as having chronic bromism. In both of these patients, as in others seen over the years, the initial diagnosis was not clear and other neurological diseases had to be considered.

Case #1—This 56 year old married female was referred to the neurosurgical service because her physician suspected a brain tumor. The neurological examination revealed a drowsy, confused, and somewhat agitated woman with slurred speech. The cranial nerves were intact and the tendon reflexes were active and equal. A history was obtained shortly after admission to the hospital of ingestion of "nervine" over the past several years with increase of dosage in the past several days. The bromide blood level was 255 mg.%. She was treated with intravenous saline infusions and the bromide level had dropped to 81 mg.% on the eleventh hospital day. The patient showed gradual improvement and was discharged two weeks from the day of admission without symptoms.

Case #2—A 56 year old white female was admitted in a confused and disoriented state complaining of headaches. She had a history of long standing heavy alcohol intake, and a subdural hematoma was considered. Fortunately, a careful history revealed that she had recently been taking large amounts of "nervine". The physical examination was unremarkable except for a clouded sensorium and symmetrically decreased deep tendon reflexes in the lower extremities. The serum bromide level was 261 mg.% She was treated with sodium and potassium chloride, with slow improvement. In two weeks, the serum bromide was down to 61 mg.%, and she was well oriented on discharge.

Discussion

Bromide ion was discovered in the Mediterranean in 1826 and soon thereafter began to be used medicinally. Its first use was for splenomegaly. Later it was found to have sedative and anticonvulsant properties and was used widely in epilepsy. Bromide intoxication was reported in the literature in 1927.[1] Due to the toxic properties of bromide and the development of the more efficacious new tranquilizers and sedatives, bromide no longer is the drug of choice for any of these conditions. Since only a few bromides are still prescribed, the greatest hazard seems to be the large number of proprietory drugs containing bromide available to the public and taken usually for "nervousness".

The distribution of bromide in the body is similar to that of chloride, i.e., it is spread throughout the extracellular fluid. Bromides are found intracellularly in high concentration only in erythrocytes and neurons, possibly explaining why the main effects of intoxication are on the central nervous system. The bromide to chloride ratio in all body fluids is the same as the ratio in the serum except in the cerebrospinal fluid where it is reduced and in the gastric and salivary secretions where it is increased.[2] Ordinarily the ratio is decreased in the urine indicating preferential reabsorption of bromide and excretion of chloride. This can be reversed by mercurial, and mannitol-ethacrynic acid diuretics.[3]

Acute bromide intoxication is seldom seen because the ion is irritating to the gastrointestinal tract and produces vomiting before sufficient blood levels can be reached. However, due to bromide's slow excretion through the kidney, serum levels can be built up by chronic ingestion. The signs and symptoms of bromism vary greatly, and thus the diagnosis may be difficult. Mental disturbances are the most constant symptoms present. Confusion, drowsiness, dizziness, stupor, coma, or irritation and agitation are fairly common. If the preparation is taken for nervousness and produces agitation, more bromide may be taken thus instituting a vicious cycle. Psychiatric changes are often precipitated—hallucinations, manias, delusions, depression, schizophrenia, or paranoid ideation. Neurological changes are varied—ataxia, tremor, ocular palsies, paralysis, hypoactive or hyperactive reflexes, positive Babinski sign, or thick speech. These may be present in perplexing combinations, and are noted for their tendency to change from day to day. Bromide rash may be present and is a great help in diagnosis, but it probably is less often present than not. Too often bromism is not considered because of the lack of a skin rash.

The diagnosis is made from serum bromide levels. There is a wide variation, however, in the level at which symptoms begin. Arterioslerosis, alcoholism, dehydration, malnutrition, psychosis, or heart disease may cause an earlier onset of symptoms with lower blood levels.[2] Transplacental intoxication of an infant has been reported.[4] Interestingly, the infant did not show nearly the toxic signs that the mother did even though the blood levels were significantly high in the child.

Much has been written on the treatment of bromism. The most important principle

is the administration of intravenous sodium chloride, or, in heart failure patients ammonium chloride. This stimulates halogen excretion by the kidney, a fixed ratio of which will be bromide. Mercurial diuretics can increase halogen excretion and increase the percentage of bromide in the urine. Ethacrynic acid and mannitol diuresis is reportedly[3] even more efficient, and compares favorably with hemodialysis which can be used in severe cases.[5] One group reports[2] that gastric aspiration with concurrent histamine stimulation is effective. Mortality from bromism is low although serum levels over 300 mg.% are potentially lethal.

Summary

Chronic bromism still exists. Since the symptoms and signs produced by this intoxication are mainly those of a psychiatric, and/or neurological illness, the diagnosis may be confused with other neurological lesions but can be easily diagnosed by obtaining bromide blood levels. The fact that chronic bromism still exists and is relatively frequent should not be overlooked.

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There is a destiny that makes us brothers.
None goes his way alone;
All that we send into the lives of others
Comes back into our own.

—*Edwin Markham*

Aortographic Findings in Dissecting Aortic Aneurysm

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Aortography is necessary to define the location, extent, and complications of dissecting aortic aneurysm. The fullest possible delineation of the arterial anatomy is essential to the decision concerning the mode of therapy.

THE DEFINITIVE PREOPERATIVE DIAGNOSIS of dissecting aortic aneurysm is made by aortography since the clinical and plain film findings are not always conclusive. The radiologic approach to this problem and the gamut of roentgenographic findings can best be presented by the report of a patient seen recently at the University of Virginia Hospital.

A 55 year old Negro male was seen in the Emergency Room on January 9, 1968, because of sudden sharp epigastric pain radiating into both groins and accompanied by nausea, vomiting and diaphoresis. The pain and accompanying symptoms had been remittent for seven hours. The patient had been in good health since 1957 following a subtotal gastrectomy for peptic ulcer. Examination of the chest disclosed a grade II/IV left ventricular outflow tract murmur. Abdominal examination showed diffuse voluntary guarding with midline tenderness from the xiphoid to the pubis and absent bowel sounds. There were bilateral femoral bruits although femoral pulsations were good. The temperature was 36.4 C, pulse 88, blood pressure 230/120 and respiration 18. Hematocrit was 46 per cent, white blood count 11,900 and stool guaiac was negative. EKG showed no acute changes. Routine roentgenograms of the chest showed poor inspiratory effort but no significant changes from March 1967. Roentgen examination of the abdomen was unremarkable. After a brief period of ob-



Fig. 1. Thoracic aortogram showing a dissecting aneurysm extending from the origin of the left subclavian artery (large arrow) to the diaphragm. The lucent line (small arrows) represents the separation between the true and false lumina.

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servation, the clinical picture remained unchanged and percutaneous retrograde femoral aortography was performed.

For the initial film sequence, the catheter was positioned in the ascending aorta just above the valve. The x-ray tube was centered over the thorax, and the patient was placed in the right posterior oblique position. The roentgen findings in this sequence showed a dissecting aneurysm which began at the root of the left subclavian artery and extended the length of the thoracic aorta (Fig. 1).

In order to evaluate the full extent of dissection, a second film sequence was made with the catheter placed at the level of L1. The x-ray tube was centered over the abdomen with the patient supine. The roentgen findings are shown in Figure 2. Filling of



Fig. 2. Abdominal aortogram showing all major branches filled except the left renal artery. The false channel is not opacified but is seen as a para-aortic soft tissue shadow in the distal thoracic aorta (arrow).

the aorta and all major branches except the left renal artery was seen. The false channel of the dissection was not opacified but was represented by a para-aortic soft tissue shadow.

To determine whether the false channel supplied the left renal artery, or if there was a left kidney present, a third injection was made with the catheter repositioned in the ascending aorta just above the valve as in the first sequence and with the x-ray tube centered over the abdomen. The findings are shown in Figure 3. All major arterial branches including the left renal artery were outlined. Since both false and true channels were filled proximally, the left renal artery did indeed fill from the false channel. The common iliac and femoral arteries were also visualized with the third injection and appeared to be normal.

Discussion

Aortography is necessary to define the location, extent and complications of dissecting aortic aneurysm. The fullest possible delineation of the arterial anatomy is



Fig. 3. Abdominal aortogram showing all major branches filled including the left renal artery (large arrow). The lucent line between both channels can be faintly seen (small arrows).

essential to the decision concerning the mode of therapy.

Opacification of the false channel depends on its patency and the site of injection of the contrast medium in relation to the origin of the dissection. When both the true aortic lumen and the false channel

opacify simultaneously, a radiolucent line is usually seen between the two channels. This line which represents the intima and a portion of the media is pathognomonic of dissection and serves to differentiate a large intact aorta from one that is enlarged due to dissection. When the false channel does not opacify, the aneurysm appears on the roentgenogram as an increase in soft tissue adjacent to the contrast-filled true channel.

During aortography, all the major arterial branches of the aorta should be identified, since one of the complications of dissecting aneurysm is isolation of major arterial branches from the true lumen. The case history cited here illustrates this point nicely. In these instances, the arterial supply of the isolated branch is maintained as long as the false channel remains open. Should the false channel be obliterated by clot, the arterial supply is cut off.

The existence and site of re-entry of dissection is an important therapeutic consideration. If the false channel opacifies, a re-entry site must exist, since flow will only continue as long as the channel is open at both ends. The exact re-entry site, however, is often difficult to identify by aortography. Tracing the radiolucent line between channels to the point where it seems to terminate can be misleading because the dissection may spiral resulting in loss of definition of the radiolucent line, but the point of loss does not necessarily indicate the site of re-entry.

Since the prognosis of dissection aortic aneurysm is so grave and its preoperative diagnosis often so inconclusive, it is our belief that aortography should be resorted to in order to clarify the diagnosis early in the patient's course. The procedure is associated with little morbidity and is invaluable in the information it yields.

Summary

A case of dissecting aortic aneurysm is presented to illustrate the radiologic approach to and characteristic features of dissecting aortic aneurysm.

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Laughter is the saving emotion of the human race, when genuine, for from its presence the cynic flees, the pessimist retreats, the misanthrope is driven to cover. Under its influence the sun shines in dark places, the birds bring again their choicest songs, the flowers lift their smiling faces, and the world becomes once more a worthwhile place in which to live.

—*Charles E. Whelan*

Clinicopathological Discussion . . . .

Case Presentations from the Records of the Surgical Committee Meetings The Memorial Hospital, Danville, Va.

The patient is a 33-year-old white female who was first seen in March of 1965 with symptoms suggestive of hyperthyroidism. Her I-131 uptake was 53% and her P.B.I. was 9 micrograms per cent. Her physician felt that these studies were confirmatory evidence that she was suffering from acute hyperthyroidism, and he, therefore, placed her on Lugol solution, 155 drops three times a day, and Phenobarbital, 1½ grains four times a day. These medications were given in an attempt to prepare the patient for definitive thyroid surgery at a later date. She was also given Digitoxin 0.2 mg. daily. She was maintained on this treatment from 3-31-65 until 4-23-65 at which time she underwent a subtotal thyroidectomy. Immediately postoperatively, she had difficulty breathing and could speak with only a whisper. These symptoms persisted throughout her hospital course but only to a minor degree. She was seen by an otolaryngologist with these symptoms, and during a difficult examination of her vocal cords he noted normal motion of the cords. The patient was discharged from the hospital on thyroid, grains 1 b.i.d. During the interim between the initial hospital admission and her present hospital admission, she became pregnant and delivered a healthy normal child under general anesthesia. During this time the patient had noted that she was having more difficulty in catching her breath after physical exertion and she had the feeling that her throat would close in on her. The patient was admitted to the hospital on July 21, 1968, in acute respiratory distress. These symptoms had developed rather acutely following a short upper respiratory infection. In the emergency ward emergency tracheostomy was undertaken. Clinical examination of her vocal cords after tracheostomy revealed bilateral cord paralysis. The patient was allowed to recover from this operation and was readmitted to the hospital several months later for elective arytenoid surgery. In spite of this, the patient has persisted in complaining of shortness of breath and has had to be maintained with a tracheostomy. It is of interest that the patient has had multiple serum examinations for calcium and phosphorus and has demonstrated hypocalcemic values ranging between 7.5 and 8.5 mgs. per cent and her phosphorus has ranged between 2.8 and 3.5 mgs. per cent. She has never demonstrated overt symptoms of hypoparathyroidism. In summary, this is a case of a 29-year-old white female with acute hyperthyroidism who was treated initially with Lugol solution and then with surgery who developed bilateral cord paralysis as a late complication.

I believe this case discussion should include remarks about both the preoperative preparation as well as the postoperative complications. Dr. Harvie, how do you prepare your patients with hyperthyroidism for surgery?

Dr. Edwin Harvie: All hyperthyroid patients in whom subtotal thyroidectomy is advised should be euthyroid at the time of operation. This is accomplished with the use of antithyroid drugs, either alone or usually in combination. These fall into three general categories: (1) the thiocarbamides, that is propylthiouracil and Tapazole, (2) certain hydrated monovalent anions such as perchlorate and thiocyanate, and (3) stable iodine.

The most widely used are the thiocarbamides which inhibit the formation of thyroid hormone by interfering with the binding of iodine into an organic form. Their effects on the thyroid is prompt although in large toxic glands, hyperthyroid-

ism may continue for several months until all the thyroid hormone in the gland has either been metabolized or excreted. Often, however, marked improvement is noted in three to six weeks. Guanethidine (Ismelin) or Rauwolfia may be used during this time to lessen the clinical manifestations of hyperthyroidism, which many believe is mediated through the sympathetic nervous system. Dosages of P.T.U. is 300 to 600 mgs. daily, given in divided doses every eight hours. Recently, successful treatment of milder cases has been reported using a single daily dose. Tapazole is given in a dose of 20 to 40 mgs. daily in four divided doses. Toxic reactions to thiocarbamide are uncommon and the incidence of agranulocytosis is around 0.3 per cent. Well over 75% of these patients recover completely. Periodic leukocyte counts are recommended by many but prompt reporting of any infection, such as a sore throat, is probably a better way to detect agranulocytosis early. Thyroid hormone can be given with P.T.U. or Tapazole in certain cases to avoid even transient episodes of hypothyroidism or to decrease the size of the gland should it enlarge during therapy with the thiocarbamides. The hydrated monovalent anions interfere with trapping of the iodine by the thyroid. These are used infrequently because of gastrointestinal irritation and because significant amounts of iodide such as found in certain medications or in x-ray contrasts media will overcome the effects. The mechanism of action of stable iodine is not entirely clear. Some thyroidologists feel that it decreases the rate of hormone release by the thyroid, reduces the size and number of thyroid cells, and reduces the vascular mask of the thyroid. These effects are transient and the thyroid will usually escape from them in several weeks to a few months. In general, most patients are placed on P.T.U. or Tapazole until euthyroid and stable iodine is added 10 to 14 days prior to operation to reduce the vascularity of the gland. It may be given in the form of Lugol solution or as a saturated solution of potassium iodide, five to 10 drops three times a day. The exact time when euthyroidism has been achieved is not always precise. Probably the best criteria is the general feeling of well-being and a gain in weight by the patient. With proper preoperative preparation with antithyroid drugs, the dreaded complication of thyroid storm is virtually never seen and overall results of this form of therapy are gratifying.

Dr. Deyton, would you care to make some comments concerning the treatment of hyperthyroidism with I-131?

Dr. Deyton: Radioiodine is a satisfactory mode of treatment for most patients with hyperthyroidism. It has been used for more than 25 years. The initial recommendations were that it be used only in patients over 40 years of age; however, the age limitation has been revised downward and in some clinics it is largely disregarded. Radioactive iodine therapy of hyperthyroidism should not be used in pregnant women and probably should not be used in children. There is no proof that the amount of radioactivity given with the usual dose produces any carcinogenic effect in adults. Initially, there was concern about a possible carcinogenic effect on the thyroid gland itself. In adults, this seems to have been refuted. Of more concern has been the possible development of leukemia or genetic damage. Some feel that there is a slight increase in the incidence of leukemia after I-131 therapy; however, other studies have failed to show this increase incidence. The usual therapeutic dose of radioactive iodine delivers a gonadal dose of one to two roentgens. This is approximately the same dosage received during a routine I.V.P. and is less than the dosage received in a routine barium enema with fluoroscopy. At present, there is no data which demonstrates any congenital abnormality of any kind resulting from radioiodine therapy. In summary, therefore, the genetic and carcinogenic radiation hazard from radioiodine treatment of hyperthyroidism, although

present, is quite small, being considerably less than the same hazards from natural background activity. A satisfactory response can usually be obtained even though retreatment may be required. Development of late hypothyroidism is not currently felt to be a contraindication to radioiodine therapy of hyperthyroidism and, indeed, most thyroidologists now feel that hyperthyroid patients should be rendered hypothyroid and placed on exogenous thyroid hormones for the remainder of their lives. I personally feel that most hyperthyroid patients above the age of 25 should be treated with radioiodine and I feel even stronger about treatment of poor risk surgical patients and thyrocardiac patients using this mode of therapy.

Dr. Milam, do you have any comments concerning the treatment of hyperthyroidism?

Dr. Milam: Each case of diffuse toxic goiter must be evaluated and treated according to its own merit. In general, most patients who are past the child-bearing age and who are in otherwise good health, and where exophthalmos is not a prominent feature of the illness, should be treated with radioactive iodine in proper dosage. In young adults and children and in those in which exophthalmos is a prominent feature, they should be treated either using some mode of drug therapy or with a combination of drug therapy and surgery. I personally use either propylthiouracil or Tapazole in the dosage schedules as outlined by Dr. Harvie. One point should be stressed here, that is, treatment of diffuse goiter with hyperthyroidism noted during early pregnancy. These women should be treated with drug therapy or a combination of drug therapy and surgery as has been outlined earlier in this discussion, provided the treatment can be completed during the middle trimester. In cases where the treatment cannot be completed by the middle trimester, they should be carried throughout the pregnancy with drugs, taking great care not to make the mother hypothyroid and preferably keeping her slightly hyperthyroid. The treatment should continue for several months postpartum and the infant should not be allowed to be breast fed since the antithyroid drugs are secreted in the milk. These patients should never be treated with radioactive iodine.

Dr. Manheim, what do you as an anesthesiologist consider when a patient of this type is scheduled for surgery?

Dr. Manheim: Hyperthyroidism was an entity which with the advent of quality endotracheal tubes and the use of muscle relaxants has not posed the anesthetic problems that it did in the past. It is now possible to visualize the vocal cords directly and together with x-ray and palpation determine if the trachea is deviated. The gland now can be prepared leisurely for surgery and oversedation with preoperative hypnotics are no longer necessary. The patient is now placed in the thyroid position which is a modified semi-Fowler's position. This is done by using either a thyroid rest or placing a roll under the shoulders. An occipital pillow is mandatory while using this position. The eyes are always instilled with mineral oil and covered. It is extremely important not to hyperextend the neck as this results in vertebral artery occlusion. Again, with the conclusion of the procedure the vocal cords can be visualized so as to minimize the probability of sending the patient to the recovery room with bilateral cord paralysis.

The present day anesthetic management consists of adequate preoperative medication, preanesthetic evaluation of the patient for phonation, and respiratory and swallowing problems. After routine intubation, the patient is carried in a light anesthetic state with any one of a variety of agents. Agents which sensitize the myocardium are avoided. Spontaneous respirations with assisted ventilation is all is required. Cardiac monitoring is paramount. At the conclusion of the procedure, the endotracheal tube is removed under direct vision and the vocal cords observed for movement. In the immediate

postoperative phase, phonation is eagerly awaited in the recovery room. Why are these measures necessary? (1) From a mechanical standpoint: an enlarged gland may cause obstruction and deviation of the trachea. Mechanical compression may cause absorption of the laryngeal cartilage with subsequent collapse when the gland is removed causing an upper respiratory obstruction. Extensive deviation necessitates the need of a can't-kink type of endotracheal tube which follows the deviation from insertion without rupturing the trachea. (2) From a medical standpoint: the gland which is hyperactive has an adverse effect from an anesthetic standpoint in that the thyroid hormone sensitizes the myocardium to the effects of catecholamines. During periods of hyperactivity there is striking excess of catecholamines with the possibility of cardiac irregularity, notably atrial fibrillation and ventricular tachycardia and/or fibrillation. This is why I require all anesthetists to have antiarrhythmic agents on hand ready for use if a possible crisis arises. The preferred agent at one time was Pentolamine but now Indural and Lidocaine would be preferable. For the aforementioned reasons, after the patient has been attached to the monitors and prior to anesthesia, the gland is palpated and the effects observed in order to avert any disaster which might occur under anesthesia. (3) From a surgical standpoint: the possibility of inadvertent bisection of the recurrent laryngeal nerve exists. Also, with adherent glands the possibility of tracheal tear arises. The anesthetist must be on his toes to diagnose both of these. The latter should be readily apparent by the creation of an airway leak, the former may be detected by visualization of the cords at the conclusion of the procedure and if not apparent then in the recovery room by observing airway embarrassment either by stridor or by the inability to phonate. (4) Other complications are airway embarrassment which may occur in the postoperative period from mechanical compression secondary to a bulky and tight dressing and also from obstruction which might occur from a loose bleeder which cause a large hematoma. Properly functioning drains have almost outmoded this needless complication; however, a large bleeding vessel such as the superior thyroid artery can cause respiratory obstruction from hematoma in a matter of seconds. If the aforementioned principles are adhered to, a preanesthetic period free of apprehension is produced followed by an atraumatic course of anesthesia, with surgical freedom and therefore a postanesthetic course free of complications.

Dr. Rol, would you care to comment on the treatment of bilateral cord paralysis?

Dr. Cornelius Rol: When bilateral vocal cord paralysis exists, the chance of respiratory obstruction is so great that surgical correction is warranted. Although I have never seen a spontaneous recovery of a traumatic vocal cord paralysis, it seems justified that surgery should be postponed from three to six months. However, the patient has to be warned of the serious complications that may accompany an upper respiratory infection. If the patient develops acute respiratory distress, an emergency tracheostomy should then be done. There are several corrective procedures utilized to widen the glottis. They all have the same principle of fixing one vocal cord to the lateral wall, leaving the other vocal cord in its medium or paramedium position. Fixation of the cord may be obtained by permanently suturing the arytenoid to the thyroid cartilage or removing the arytenoid and suturing its perichondrium to the thyroid cartilage. The most common surgical approach is through the lateral surface of the thyroid cartilage or directly behind the posterior border of the thyroid cartilage. Certain schools, however, have developed an endoscopic procedure for removal of the arytenoid, cauterization of the perichondrium, and fixation of the latter to the thyroid cartilage.

Dr. James Nevin: Recurrent nerve injury after extensive thyroid surgery is a definite surgical complication. Howell reported on 1100 thyroidectomies in which both recurrent nerves were exposed at the time of surgery. There were 28 recurrent nerve paralyses after these 1100 thyroidectomies, three of which were permanent. Therefore, in this particular series or in series where the nerves are exposed and careful surgical dissection is undertaken the incidence of permanent recurrent nerve damage, although less than 1%, still exists. Exactly what happens to the recurrent nerve in patients who develop transient paralysis is not clearly understood. Judge and Mann did an extensive investigation in dogs and found that after crushing, tearing, transecting the recurrent nerves, even if they were reapproximated, function never returned to the vocal cords. If one can translate the results of animal experimentation and apply them to man, then one may assume that any recurrent nerve damage of significance will result in an irreversible complication. Therefore, in radical thyroid surgery the nerves must be exposed by surgical dissection in order to avoid this type of complication. Since vocal cord paralysis as well as permanent hypoparathyroidism are definite and sometimes unavoidable surgical complications, I personally feel that surgery as a mode of therapy for this condition should be used only after other modes have proved unsatisfactory.

Patient Care at University Hospital

The University of Virginia Hospital provided care for 15,829 patients during 1967-68, an increase of 521 patients or nearly 3.4 percent over the previous year.

The average patient stay dropped from 10.4 to ten days and the total days care rendered patients dropped 3,422 days to 155,305—meaning that the hospital cared for more patients in less time than in 1966-67. These figures do not include newborn and intensive care nurseries.

The hospital's annual statistical report recently released shows that for the second year of Medicare the over-65 age group made up 16.4 percent of the hospital admissions, an increase from last year's 11.8 percent, but still below the average annual figure for this population group before Medicare. This reflects the fact that availability of Medicare benefits allows elderly patients who used to come as ward patients to remain in their own communities and enter hospitals there as private and semi-private patients.

The older patients have longer-than-average hospital stays and received 20.5 percent of the total days care rendered here in 1967-68. On four services Medicare patients made up a substantially above average proportion of the total patients admitted: ophthalmology 40%, radiology 36%, urology 28.9% and medicine 25.9%.

The annual statistical report showed only a slight decrease in the number of births compared with the early 1960's when increasingly effective birth control programs brought substantial decreases each year. The figure last year was 1,581 compared with an annual figure of 2,000 or 2,100 a decade ago.

The hospital's outpatient clinics recorded 101,975 visits last year—a figure that has shown only slight variations during the past few years. The total number of emergency department visits—23,457 last year—also has remained relatively stable in recent years.

Mental Health....

PERCY G. HAMLIN, M.D.

An Historical Vignette in Forensic Psychiatry

One of the most distinctive annual meetings of the American Psychiatric Association was held in Richmond, Virginia, May 11-16, 1925. William Alanson White, M.D. of St. Elizabeth's, Washington, D. C., was the President of the Association and Attorney Clarence Darrow of Chicago was the featured speaker.

Darrow was fresh from the laurels won in the Leopold-Loeb case (1924) in which for one of the first, if not the first time in American criminal jurisprudence, psychiatry played the leading role. This is Darrow's own version.[1]

"Before any lawyer was employed, the State had called into their counsel the best known alienists in Chicago. This made it necessary for us to go outside of the State of Illinois to find alienists to examine the defendants.

"About that time the National Association of Psychiatrists were holding their convention in Atlantic City. We at once delegated Mr. Walter Bachrach, one of the counsel for the defendants, to go to the convention and secure three or four of those of highest standing in their profession to come and make an investigation of the two boys. Thereupon we secured Doctor William Alanson White, Doctor William Healy and Doctor Bernard Glueck to make the examination. . . .

"These three physicians together with Doctor Bowen (Dr. Karl Bowman) and Doctor Hurlburt, an able young alienist of Chicago,[3] met in Chicago. Doctor Bowen[1] (Karl Bowman) was an expert whose business related to the careful and specific action of the ductless glands, that now universally are believed to have so much of importance to do with human conduct. From the time of our entry into the case until the matter was called into court we were able to secure only a week's delay. . . ."

The concern of this sketch is primarily not with the Leopold-Loeb "cause celebre" but with Clarence Darrow's appearance in Richmond to address the 1925 meeting of the A.P.A. As a consequence, among other things, two Richmond doctors gave the stimulus that brought Darrow to the defense of John Scopes of Dayton, Tennessee. Scopes was to be prosecuted by William Jennings Bryan for daring to teach the Darwin theory of evolution in the Dayton schools. Dr. Beverly Tucker and Dr. James K. Hall and the novelist, James Branch Cabell, had been driving Darrow around the Richmond environs. When they returned to the Jefferson Hotel, they "twisted Darrow's arm" into sending a wire offering to defend young Scopes. Dr. Beverly Tucker apparently was the chief spokesman and was so forceful that Darrow capitulated and sent the wire.[6]

It is relevant, though, to mention here two sidelights from the Leopold-Loeb case. Mr. Crowe, the State's attorney, was very sarcastic and derogatory of Dr. William A. White repeatedly referring to him as "Old Doc. Yak" [4] and "Doctor Yak" (cartoon character of the period).

The other sidelight from the Leopold-Loeb case concerns Dr. Sigmund Freud[2] who was peripherally involved. Freud was approached by Seldes of the staff of the Chicago Tribune. On orders of Colonel McCormick, Seldes was told to send the following telegram to Freud. "Offer Freud

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Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

25,000 dollars or anything he names come to Chicago psychoanalyze (i.e. the murderers)." Freud replied to Seldes in a letter dated June 29, 1924:

"Your telegram reached me belatedly because of being wrongly addressed. In reply, I would say that I cannot be supposed to be prepared to provide an expert opinion about persons and a deed when I have only newspaper reports to go on and have no opportunity to make a personal examination. An invitation from the Hearst press to come to New York for the duration of the trial I have had to decline for reasons of health."

The Leopold-Loeb trial was just a little over a year in the background when Darrow stood before an audience of some 4,000 persons at the Mosque in Richmond and delivered his address on "The Sane Treatment of Crime." It was a great day (night of May 13, 1925) for Richmond, for science, for psychiatry and for drama. It shook up the complacency of the city. The role of two Richmond doctors and the novelist James Branch Cabell in motivating Darrow to go to Dayton, Tennessee (this trial was covered by H. L. Mencken for the Baltimore Sun) and the so called Monkey Trial has been sketched.

In Richmond in a news conference with reporters[5] Darrow said that details of a crime should not be featured in the news media. Unfortunately, we have every day of our lives terrible examples in this quota of how his advice has been and still is ignored. With characteristic blunt honesty he pointed out that his advice conflicted with the profit motive of such publications.

The Scopes trial at Dayton is not germane to our thesis, but its drama and the death of Bryan (apparently connected with overeating) has been the source of much writing and some few movies. It is interesting and comforting to note that a recent action of one of the Tennessee governing agencies (probably the legislature) has recently authorized the teaching of evolution in the public schools of that State.

Addenda

Dr. Beverly Randolph Tucker was Professor of Neurology at Medical College of Virginia. The Department of Psychiatry as an independent department came later.

Dr. James King Hall with Dr. Paul V. Anderson and Dr. E. M. Gayle founded Westbrook Sanatorium in 1911. Dr. Hall in 1941-42 was President of the American Psychiatric Association.

Karl Murdock Bowman was born in Topeka, Kansas, November 4, 1888. He graduated (received M.D.) from University of California in 1913. At the time of his involvement in Leopold-Loeb case, he was Assistant Professor of Psychiatry at Harvard and Chief Medical Officer of the Boston Psychopathic Hospital. He was later Director of Psychiatry at Bellevue Hospital, New York City, and subsequently head of the Langley Porter Clinic in San Francisco. He is presently involved in psychiatric administration at Anchorage, Alaska. He is a man of amazing energy in administrative psychiatry.

James Branch Cabell scarcely needs an introduction to the literate. Richmond claims him. He received his A.B. from William and Mary in 1898. Excellent comprehensive sketches of him and his works are in (1) "The Oxford Companion to American Literaure" (Hart) and in (2) Webster's Biographical Dictionary.

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Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Amblyopia Exanopsia

Amblyopia exanopsia, or "lazy eye syndrome" is the most frequent cause of unilateral loss of useful vision.

Of the 8.1 million children between the ages of three and four in this country, various surveys report that 3-4% are affected by amblyopia. In one small but carefully done survey in which 94 two-and-a-half to four-year olds were tested, 6.4% were amblyopic.

Loss of vision of the involved eye occurs more rapidly and is more profound when the onset is in infancy or early childhood. Amblyopia, therefore, is considered a problem which cannot await later detection and treatment. For many of these children, detection and treatment at school age is too late.

If amblyopia is detected by three or four years of age and treatment instituted, the child has the best chance of preservation of good vision in both eyes. One condition to be referred even earlier is an obvious congenital strabismus or squint persistent past the sixth month of life. The earlier treatment is begun, the better the result. Full visual acuity without discrepancy between the two eyes is best obtained before the child's formal education begins, and not after permanent visual damage or school failure and discouragement has already taken place.

To aid in the earliest possible detection of amblyopia, the Bureau of Child Health of the Virginia State Department of Health will make available to physicians a new, simple, parent-administered screening test.

The device, a modified Sjogren hand card, was devised by Dr. Edward Press and first tested in a project of the Illinois Department of Public Health with the Illinois Chapter of the A.A.P. It is based on the ability of the child (three to four years) to correctly identify the position in which the image of the human hand is rotated.

While there is not a single totally satisfactory method of visual screening in the preschool child, the Sjogren hand card has been tried and found workable. Other more traditional methods are more effective in children five or six years old, an age too late for many amblyopic children.

In Doctor Press's Illinois project, initial analysis of 1,288 cards returned to physicians indicated 7.5% of the children failed the parent-administered examination. However, when these 97 children were retested by ophthalmologists, pediatricians, public health nurses or office assistants, only 37 (2.9%) still failed to pass the test.

Four screening methods were recently evaluated in Brookline, Massachusetts, with more than 4,500 children three through five years of age as subjects. The study found the Sjogren hand card visual acuity test to be reliable, feasible and valid. It was slightly more effective among three and four year olds than the "E" charts. It is easier to administer in the field, requires no heavy equipment, no more than 12 feet of distance, and can be administered by parent alone. A difference in acuity between the two eyes (amblyopia) can be easily observed in the home where the child is less apt to be disturbed by having one eye covered. Simple instructions for giving the test are printed on the back of the card. If the tests indicate a visual discrepancy between the two eyes with a failure to determine the correct direction of the fingers in four or more out of six positions out of one eye, the child may have an early case of amblyopia. (It has

been noted that fatigue enhances the "lazy eye" effect and may actually be a helpful factor in detection.)

Children whose test results are questionable can be rescreened by the child's own physician and referred to an eye specialist for further evaluation and treatment as he feels indicated.

For those communities without local resources for the medically indigent, the Virginia Commission for the Visually Handicapped, 3003 Parkwood Avenue, Richmond, will provide an eye evaluation and refraction free of charge by appointment in Richmond. For those children with muscle imbalance, diagnostic service and treatment, including surgery, is provided by the Virginia State Department of Health, Bureau of Crippled Children, upon referral through the local health departments.

The Virginia State Department of Health obtained from the American Academy of Pediatrics samples of the card and permission to reproduce it in unlimited quantities in January, 1968. Public health nurses are using them in the field.

A supply of Sjogren hand cards may be obtained upon request to the Bureau of Child Health, 624 James Madison Building, 109 Governor Street, Richmond, Virginia 23219.

Monthly Report of Bureau of Communicable Disease Control

	Mar. 1969	Mar. 1968	Jan.-Mar. 1969	Jan.-Mar. 1968
Brucellosis	7	2	9	2
Diphtheria	0	0	0	0
Hepatitis	31	48	70	126
Meningitis (Aseptic)	1	0	3	0
Meningococcal Infections	9	3	29	15
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	0	0	0	1
Rubella	217	117	256	222
Rubeola	282	81	445	139
Streptococcal Sore Throat or Scarlet Fever	2478	2055	5237	5165
Tularemia	0	1	0	1
Typhoid	0	2	0	3
Rabies (in animals)	62	26	189	62
Venereal Disease				
Syphilis	125	111	351	380
Gonorrhea	906	788	2777	2356
Other	1	2	4	3



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Indication—Oral contraception.

Contraindications—Thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia, undiagnosed abnormal genital bleeding.

Warnings—Watch for the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism, retinal thrombosis); if present or suspected discontinue the drug immediately.

British studies reported in April 1968[1,2] estimate there is a seven- to tenfold increase in mortality and morbidity due to thromboembolic diseases in women taking oral contraceptives. In these controlled retrospective studies, involving 36 reported deaths and 58 hospitalizations due to "idiopathic" thromboembolism, statistical evaluation indicated that the differences observed between users and non-users were highly significant. The conclusions reached in the studies are summarized in the table below:

Comparison of Mortality and Hospitalization Rates Due to Thromboembolic Disease in Users and Non-Users of Oral Contraceptives in Britain.

Category	Mortality Rates		Hospitalization Rates (Morbidity)
	Age 20-34	Age 35-44	Age 20-44
Users of Oral Contraceptives	1.5/100,000	3.9/100,000	47/100,000
Non-Users	0.2/100,000	0.5/100,000	5/100,000

No comparable studies are yet available in the United States. The British data, especially as they indicate the magnitude of the increased risk to the individual patient, cannot be applied directly to women in other countries in which the incidences of spontaneously occurring thromboembolic disease may differ.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or sudden onset of proptosis, diplopia or migraine. Withdraw medication if papilledema or retinal vascular lesions are found.

Since the safety of Ovulen in pregnancy has not been demonstrated, it is recommended that pregnancy be ruled out for any patient who has missed two consecutive periods before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the first missed period.

A small fraction of the hormone agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

Precautions—Pretreatment physical examination should include special reference to the breasts and pelvic organs, and a Papanicolaou smear.

Endocrine and possibly liver function tests may be affected by Ovulen. Therefore, it is recommended that such tests if abnormal be repeated after the drug has been withdrawn for two months.

Pre-existing uterine fibromyomas may increase in size under the influence of progestogen-estrogen preparations.

Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation.

In breakthrough bleeding, and all irregular vaginal bleeding, consider nonfunctional causes. Adequate diagnostic measures are indicated in undiagnosed vaginal bleeding.

Carefully observe patients with a history of psychic depression and discontinue the drug if severe depression recurs.

Any possible influence of prolonged Ovulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study.

A decrease in glucose tolerance has occurred in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be observed carefully while receiving Ovulen.

Because of the effects of estrogens on epiphyseal closure Ovulen should be used judiciously in young patients in whom bone growth is not complete.

The age of the patient constitutes no absolute limiting factor, although Ovulen therapy may mask the onset of the climacteric.

The pathologist should be informed of Ovulen therapy when relevant specimens are submitted.

Adverse Reactions—A statistically significant association has been shown between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: cerebrovascular accidents, neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement, secretion), change in weight, changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, allergic rash, rise in blood pressure in susceptible individuals, mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme and nodosum, hemorrhagic eruption, itching.

The following laboratory results may be altered by oral contraceptives: hepatic function: increased sulfobromophthalein and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test; pregnanediol determination.

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Often the symptoms of anxiety states are difficult to sort out—even with the most careful probing. The patient may manifest symptoms of agitation, restlessness, insomnia, somatic complaints. But what of the depression that may be mixed in the total picture? It is reassuring to know that Mellaril may be prescribed—with strong possibilities of success—when there is anxiety alone or a mixture of anxiety and depression.

Before prescribing or administering, see Sandoz literature for full product information, including adverse reactions reported with phenothiazines. The following is a brief precautionary statement.

Contraindications: Severe central nervous system depression, comatose states from any cause, hypertensive or hypotensive heart disease of extreme degree.

Warnings: Administer cautiously to patients who have previously exhibited a hypersensitivity reaction (e.g., blood dyscrasias, jaundice) to phenothiazines. Phenothiazines are capable of potentiating central nervous system depressants (e.g., anesthetics, opiates, alcohol, etc.) as well as atropine and phosphorus insecticides. During pregnancy, administer only when necessary.

Precautions: There have been infrequent reports of leukopenia and/or agranulocytosis and convulsive seizures. In epileptic patients, anticonvulsant medication should also be maintained. Pigmentary retinopathy may be avoided by remaining within the recommended limits of dosage. Administer cautiously to patients participating in activities requiring complete mental alertness (e.g., driving). Orthostatic hypotension is more common in females than in males. Do not use epinephrine in treating drug-induced hypotension. Daily doses in excess of 300 mg. should be used only in severe neuropsychiatric conditions.

Adverse Reactions: *Central Nervous System*—Drowsiness, especially with large doses, early in treatment; infrequently, pseudoparkinsonism and other extrapyramidal symptoms; nocturnal confusion, hyperactivity, lethargy, psychotic reactions, restlessness, and headache. *Autonomic Nervous System*—Dryness of mouth, blurred vision, constipation, nausea, vomiting, diarrhea, nasal stuffiness, and pallor. *Endocrine System*—Galactorrhea, breast engorgement, amenorrhea, inhibition of ejaculation, and peripheral edema. *Skin*—Dermatitis and skin eruptions of the urticarial type, photosensitivity. *Cardiovascular System*—Changes in the terminal portion of the electrocardiogram have been observed in some patients receiving the phenothiazine tranquilizers, including Mellaril (thioridazine hydrochloride). While there is no evidence at present that these changes are in any way precursors of any significant disturbance of cardiac rhythm, several sudden and unexpected deaths apparently due to cardiac arrest have occurred in patients previously showing electrocardiographic changes. The use of periodic electrocardiograms has been proposed but would appear to be of questionable value as a predictive device. *Other*—A single case described as parotid swelling.

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Diagnostic Laboratory Medicine....

M. J. ALLISON, Ph.D.
H. P. DALTON, Ph.D.
M. R. ESCOBAR, Ph.D.

Neisseria Meningitidis Infections in Richmond, September 1966 to August 1968

Seventeen strains of *Neisseria meningitidis* were isolated and studied in the Medical College of Virginia Hospital Laboratories during the period of September 1966 to August 1968. Sixteen of these strains belonged to Serogroup B and one strain to Serogroup C.

Serogroups B and C would be expected in the sporadic cases seen in this area, because the epidemic strain belongs to Serogroup A, and Serogroup D strains are rare in the United States. It is interesting to observe that Serogroup B is the predominant strain in this area, since the National Communicable Disease Center (N.C.D.C.) in Atlanta, Georgia, reported in 1967 incidences of 66% and 21% for Serogroups B and C, respectively, but in 1968, it reported 46% and 43% for B and C, respectively. The only isolation for Serogroup C found in this area was in the spring of 1968. This emphasizes the need for continued study of the local strains of bacteria since the patterns obtained often differ from those of the national level.

The sensitivity of the various strains to sulfisoxazole (Gantrisin-Hoffmann-La-Roche) was tested to determine the minimal inhibitory concentration (M.I.C.) and minimal bactericidal concentration (M.B.C.) Through the first 16 months of the study, there were ten strains isolated, the M.I.C. of seven strains was under 1.0 μgm/ml. The M.I.C. for two strains were 1.25 and 5.0 μgm/ml, respectively.

The bactericidal level was within one dilution, except in one case where the M.I.C. was .04 and the M.B.C. 1.56 μgm/ml. In the late winter and early spring of 1968, there were two resistant strains which had M.I.C. of 50 and 100 μgm/ml. The M.B.C. for both was over 100 μgm/ml. There is epidemiological evidence that these strains were brought into the area from an army post. The rest of the Serotype B strains were all very sensitive with M.I.C. and M.B.C. of less than 1.0 μgm/ml. The Serotype C strain isolated was resistant with an M.I.C. and M.B.C. of over 100 μgm/ml.

The emergence of resistant strains of meningococci has resulted in the replacement of sulfa drugs (sulfisoxazole) by antibiotics, or sulfa drugs in combination with antibiotics. The problem of resistant organisms is a very recent one in the Richmond area, but in other parts of the country it has been present for a number of years. According to N.C.D.C. in 1966, 40% of the Serotype B strains were resistant to 10 μgm/ml of sulfadiazine; in 1967, 42.3% were resistant.

Serotype C strains were considered to be quite sensitive to sulfa. However, 20% and 39.5% were resistant to 10 μgm/ml of sulfadizine in 1966 and 1967, respectively. The studies performed in 1968 revealed that 50% of them were resistant.

The findings reported herein demonstrate the changing pattern in bacterial populations, both with regard to bacterial serotype and resistance to chemotherapy.

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Correspondence . . . .

Familial Angioneurotic Edema in Pregnancy.

To The Editor:

Drs. Jennings and Smith's article on familial angioneurotic edema in pregnancy (Virginia Medical Monthly, 95:417, July, 1968) should not be passed over without appropriate criticism.

Their patient did not die of hereditary angioneurotic edema; the clinical and pathologic description are most suggestive of a primary myocardiopathy, possibly alcoholic. That she had hereditary angioedema, and a number of her family had it, seems fairly certain from the history, but the mode of her death is typical of congestive heart failure, with the passive congestion found in many organs.

It is stated that there was no specific laboratory tests for the disease; since 1963, there have been voluminous reports on the abnormality in the inhibitor to the esterase of the first component of complement.[1] Most of these reports were printed in investigative journals, but the New England Journal of Medicine carried an excellent article on the subject in April of 1965.[2]

Drs. Jennings and Smith state that only one case complicating pregnancy has been reported, but at the same time use Dr. Osler's classic article[3] in their Bibliography. A brief review of Dr. Osler's article shows that the family tree he studied contained a number of successful pregnancies in women afflicted with the disease. Margaret A. had the disease, and bore five children after the onset of symptoms and Rebecca, who died of the disease, bore two children, one of whom had the disease at the time of Osler's writing.

A number of references in Dr. Jennings and Smith's article are from literature that is over forty years old; in the more recent articles, where the diagnosis can be made by laboratory method, many of the supposed precipitants and reports of involvement of Central Nervous System tissue have not held up.

The last paragraph in the article suggests that pregnancy itself is not jeopardized; again, I refer to Dr. Osler's[3] description of Rebecca, whose labor in three instances was prematurely brought on by an attack of the disease.

An extensive Bibliography is available upon request.

JOHN J. DENNEHY, M.D.

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March 12, 1969.

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held on Sunday, February 23, at Society headquarters.

Members Present: Dr. F. Ashton Carmines, Dr. William Grossmann, Dr. Thomas W. Murrell, Jr., Dr. Michael A. Puzak, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. Thomas S. Edwards, Dr. Raymond S. Brown, Dr. William S. Hotchkiss, Dr. William R. Hill, Dr. George J. Carroll, Dr. John A. Martin, Dr. W. D. Liddle, Jr., Dr. Carl E. Stark, and Dr. Carl P. Parker, Jr.

Others Present: Dr. Robert L. A. Keeley, Second Vice-President; Dr. James M. Peery, Third Vice-President; Dr. W. Linwood Ball, AMA Delegate; Dr. J. Edwin Wood, III, Associate Dean, University of Virginia School of Medicine; Dr. Kinloch Nelson, Dean, Medical College of Virginia; and Mr. Chad P. Combs, Department of Field Service, American Medical Association.

Virginia Partners of the Alliance

Dr. Fred J. Spencer, Richmond, told Council of his visit to Santa Catarina, Brazil, as a representative of the Virginia Partners of the Alliance Committee. Members of the Committee are appointed by Governor Godwin.

Virginia and Santa Catarina are working together in the private sectors of health, education and industry. The big problems, where health is concerned, have to do with an inadequate supply of good water, malnutrition, round worms, infant mortality, diarrhea, etc. It was learned that our State Department of Health is planning to send a representative to Santa Catarina as an expression of concern and friendship.

Dr. Spencer reported that he had spent a considerable amount of time with the President of the Santa Catarina Medical Association and hoped that The Medical Society of Virginia would likewise become interested and involved. He expressed the hope that Dr. Carmines would write the President of the Santa Catarina Association, expressing interest in any problems it might have. He also recommended that the Virginia Medical Monthly be sent to the medical library at Santa Catarina. The feeling was also expressed that exchange visits by the two Presidents might also be in order.

Council agreed that Dr. Carmines should write the President of the Santa Catarina Medical Association expressing interest in its activities and offering to assist and cooperate to the maximum extent possible. It was also agreed that the Virginia Medical Monthly should be sent to Santa Catarina if the details can be worked out.

Medical Tours

Dr. Carmines reported that, although Council had suggested that a special committee be appointed to study the advisability of having the Society sponsor medical tours, he had encountered some difficulty in finding interested volunteers.

Several possible committee members were suggested and Dr. Carmines stated that he would contact them just as soon as possible. He re-emphasized his feeling that medical tours should have a real purpose, and perhaps provide a needed service, if they are to be truly worthwhile. A possible trip to Santa Catarina was cited as a good example.

Mobile Coronary Care Project

Dr. Charles L. Baird, Jr., Richmond, discussed a new mobile coronary care project designed to cut in half deaths attributed to heart attacks occurring outside the hospital. The project is being set up on a pilot study basis in the Richmond area in order to establish just how much need actually exists.

The project is patterned after those which have proved very successful in other parts of the world and will operate in conjunction with area rescue personnel. It was mentioned that the Virginia Heart Association has expressed interest in projects of this kind and that the Regional Medical Program has been approached.

Dr. Baird stated that he was requesting no positive action by Council but simply wanted as many medical leaders as possible to know about the project and the reasons behind its development.

Blue Shield By-Laws

A proposed revision of the Constitution and By-Laws of Blue Shield of Virginia would permit only participating physicians to become members of the Board of Directors. There are, at the present time, two nonparticipating physicians on the Board—one

of whom is an appointee of The Medical Society of Virginia.

Dr. Murrell explained that he had made the appointment of the nonparticipating physician after discussing the matter with some Blue Shield officials. He found no opposition and it was agreed that a nonparticipating Board member might well bring with him a fresh outlook on the Plan and its problems. Dr. Murrell went on to say that the appointment was made in a sincere effort to be constructive and contribute to Blue Shield's overall effectiveness.

During the ensuing discussion it was brought out that approximately 84% of the physicians in the area concerned participate. There was some feeling that the minority should be represented in some manner. A question was raised as to whether the appointment of nonparticipating members to the Board of Directors was in keeping with sound business practice.

There was some feeling that since The Medical Society of Virginia is responsible for appointing twelve members of the Board, the President should not be unnecessarily restricted in his appointments. It was hoped that he would have the prerogative of appointing qualified members without undue restriction.

The question was then raised as to whether all areas of the State should not be represented on the Blue Shield of Virginia Board in view of the Federal programs involved. The feeling was also expressed that all physicians have a stake in Blue Shield, regardless of whether they are listed as participating or nonparticipating. This is because their patients are covered and involve them regardless.

Dr. Parker then moved that Council recommend that the Constitution and By-Laws of Blue Shield of Virginia not be amended in such manner as to prevent the President of The Medical Society of Virginia from using his discretion in making future appointments to the Board—such appointments being made without restrictions involving participating and nonparticipating physicians. *The motion was seconded and carried.*

Comprehensive Health Planning Conference

Dr. Hotchkiss reported that a Conference on Comprehensive Health Planning, to be jointly sponsored by The Medical Society of Virginia and the Virginia Hospital Association, will be held at Richmond's Hotel John Marshall on Thursday, April 3. The Conference has the support and cooperation of the Virginia Comprehensive Health Planning Council and is designed to clarify the role of the physician and hospital in comprehensive health planning and answer the many questions which are being asked today.

It was brought out that a large percentage of physicians have little, if any, understanding of comprehensive health planning and what it involves. It appears, from all indications, that local comprehensive health planning councils will determine just how effective the programs will be and it is most important that physicians and their medical societies become involved. Only in this manner can medicine exercise any degree of guidance and supervision.

All medical societies are being urged to send several representatives to the Conference and response thus far has been encouraging.

Student AMA

Dr. Warthen commented on the response he has received thus far to his editorial in the January, 1969, issue of the Virginia Medical Monthly. The editorial called attention to an apparent "change of direction" by the Student AMA and expressed some concern for the future of that organization. He indicated that he is not only concerned by this change of direction but also about what can be done to counter this new trend.

Dr. Murrell told of his work last year with the SAMA Chapter at the Medical College of Virginia and expressed the feeling that a great deal of good came about as a result of the Chapter's programs. The programs were concerned with such subjects as Medicare, the various specialties, etc.

Dr. Warthen stated that some medical students are very interested in learning more about medical societies and wondered if some type of special membership might be made available to this group. The thought was expressed that perhaps a special classification could be established which would carry a low dues rate. This would enable students to receive the Virginia Medical Monthly and be informed on what is going on within the ranks of medicine.

Dr. Nelson stated that medical students today are quite concerned with "relevance" and "participation". They seem to be quite sincere in their wish to become good physicians and practice quality medicine. He pointed out that the Student AMA, regardless of any changes that might have occurred, still seems to represent the more moderate approach.

Dr. Nelson went on to suggest that The Medical Society of Virginia would do well to appoint a special committee to meet with representatives of the Student AMA and listen to their views and problems.

Dr. Wood told of his contacts with students at

the University of Virginia and expressed the wish that students could attend meetings of local societies.

Dr. Grossmann then moved that a committee be appointed to study the matter of student organization in depth and report its findings at the next meeting of Council. The motion also recommended that student representatives be named to the committee. *The motion was seconded and adopted.*

Nutrition Seminars

The AMA Council on Foods and Nutrition will, this fall, sponsor a series of seminars and lectures at Virginia colleges and universities. These programs are designed to inform students and faculties of recent developments in human nutrition and stimulate interest in the medical and biological sciences. Nine Virginia schools are involved and AMA has requested that The Medical Society of Virginia act as a co-sponsor.

A motion recommending that The Medical Society of Virginia co-sponsor the nutrition seminars was seconded and adopted.

Congressional Luncheon

Dr. Murrell moved that the Society once again host Virginia's Congressional delegation at a luncheon in Washington. These luncheons are sponsored by the Committee on National Legislation and have proved quite successful. *The motion was seconded and adopted.*

It was generally agreed that the latter part of April would be the best time and the Executive Secretary was directed to proceed with the necessary arrangements.

A suggestion was made that a report be prepared on Medicare in Virginia. Several Congressmen have indicated an interest in learning just what the Society thinks of Medicare after observing it in action for the past several years. There have been problems involving utilization and quality of care and it was thought advisable to bring these matters to the attention of our Congressmen.

Nursing School Directory

The Virginia League for Nursing has taken the lead in compiling a descriptive listing of all schools of registered nurses and licensed practical nurses operating over the State. The last such listing was prepared in 1960 and the expense was shared by four organizations—including The Medical Society of Virginia.

A request has been received for the Society to once again contribute to the cost of publishing the directory. *It was agreed that the Society's Committee on Nursing should first consider the request and a motion to this effect by Dr. Puzak was seconded and adopted.*

Definition of "Immediate Family"

Dr. Edwards commented on a situation which had been brought to his attention concerning the definition of "immediate family" under Medicare. According to the law, services rendered by a physician to a member of his immediate family are not covered. The definition of this relationship includes brothers-in-law and sisters-in-law.

It was pointed out that this law is unfair since its enforcement depends many times on the similarity of names involved. The thought was also expressed that it denies freedom of choice.

While everyone agreed that this portion of the Medicare law should be reviewed, the feeling existed that it might be best to refer the problem to the Virginia Medicare and Medicaid Council. This particular body has only recently been organized for the purpose of seeking solutions to problems stemming from Medicare and Medicaid. It was suggested that Dr. Edwards refer the matter to Dr. John P. Lynch, Richmond, who is Chairman of the Virginia Medicare and Medicaid Council.

Southwestern Virginia Student Loan Fund

It was learned that the Southwestern Virginia Medical Society has established a loan fund for "needy students of medicine from southwestern Virginia". Funds are available to students beginning their third year in medical school and can be obtained right on through residency training. Loans bear no interest until after the first year of practice. Beginning with the second year of practice, the interest rate will be 4%—increasing 1% each year until a ceiling of 7% is reached.

Dr. Grossmann moved that the Southwestern Virginia Medical Society be commended for undertaking this very fine project. *The motion was seconded and carried.*

Blue Shield Commission

Dr. Hill reported on a joint meeting his Commission had held with officials of Surgical Care, Inc. (Roanoke based Blue Shield Plan) last October. Among the matters discussed at that time were

(1) The advisability of establishing a liaison between the two organizations, and
(2) The possibility of obtaining Society endorsement of the Plan.

Dr. Keeley, speaking for the Board of Surgical Care, Inc., expressed the wish that a liaison committee between the two groups be established. He went on to say that the matter of endorsement by The Medical Society of Virginia would quite likely be reopened at a later date—after the Plan's attorneys have had an opportunity to explore thoroughly the possible implications of such action.

It was then moved by Dr. Hill that a three-member liaison committee be appointed to Surgical Care, Inc. *The motion was seconded and adopted.*

Retirement Program

Council learned that present tax laws require that contributions under a Keogh plan be made within the tax year even though an individual is permitted to make his final income tax return and payment three and one-half months after the end of the tax year. The thought was expressed that few self-employed physicians are able to determine their net incomes until some weeks after the end of the tax year and this poses a problem in determining their final contribution to the retirement program.

Dr. Brown moved that a resolution be adopted requesting members of Virginia's Congressional delegation to seek an amendment to the Internal Revenue Code which would permit self-employed individuals participating in a Keogh retirement plan to delay payment of the final 10% of their contributions to such plan until the date they make their final payments on their Federal Income Tax for the tax year for which the contributions are applicable. The motion was seconded.

A question was raised as to whether the problem is really serious enough to justify contacting our Congressmen. It was then brought out that the matter had not yet been considered by the trustees of the Society's retirement program. *A substitute motion to refer the matter to the trustees was seconded and adopted.*

Standing Committee on Pharmacy

Council was advised that Dr. Mallory Andrews, Chairman of the special Committee on Pharmacy, believed that serious consideration should be given to making it a standing committee. It was brought out that the Committee will undoubtedly be needed for many years to come and that its designation as a standing committee would assure its continued uninterrupted operation.

Dr. Stark then moved that Council recommend to the Judicial Committee that an amendment to the By-Laws be prepared making the Committee on Pharmacy a standing committee. *The motion was seconded and adopted.*

Billing Under Medicare

Several members have recently expressed concern over new requirements in the billing of Medicare patients. As a result of a recent Government audit, the Travelers Medicare Office is now requiring a more detailed billing procedure. For example, it is no longer permissible to bill for an "injection" or "laboratory work". The physician must now specify the type of medication provided and furnish a detailed breakdown of all laboratory procedures performed. The fear has been expressed that such requirements will greatly increase bookkeeping time and costs.

The thought was expressed that AMA is in the process of preparing a position report on this and similar matters which will probably be released within the next several weeks. It was also reported that the Society is making every effort to work with the Travelers Medicare Office and will discuss this particular problem at the first opportunity. It was also realized that effective control sometimes requires strict and unpleasant regulations.

Sales Tax

The office of the State Tax Commissioner has ruled that a hospitalized patient must pay a sales tax on those drugs obtained from a hospital pharmacy on written orders of an attending physician. The ruling seems to be that physicians' orders as written on hospital charts do not represent written prescriptions and, consequently, the patient must pay a sales tax.

Although it was recognized that the Tax Commissioner is concerned about so-called "over-the-counter" drugs, surprise was expressed that such a ruling could be made.

It was decided that since the Committee on Pharmacy has been concerned with the sales tax situation for the past two years, it would be best to refer this particular matter to it for necessary action. *A motion to that effect was seconded and adopted.*

Smoking and Health

Mr. Roger Schmidt of the Virginia Tuberculosis and Respiratory Disease Association discussed the purpose and objectives of a recently appointed Interagency Council on Smoking and Health. The Council will concentrate a great deal of its activity in the schools and will be particularly concerned with preventive aspects of the question. A resource guide is being developed and the assistance of medicine is needed. A statewide conference on smoking and health is also being considered.

Dr. Salley acquainted Council with an AMA resolution calling for physicians to play an active part in the continuing campaign to discourage smoking.

Dr. Brown then moved that The Medical Society of Virginia appoint a representative to the Virginia Interagency Council on Smoking and Health. *The motion was seconded and adopted.*

Southeastern States Hospitality Suite

Delegates from those southeastern states participating in the hospitality suite at AMA meetings will meet in New York during the 1969 Annual Meeting of AMA and discuss future policy. This meeting has been arranged as a result of The Medical Society of Virginia's feeling that the suite should be sponsored only once each year and that every effort should be made to keep the cost within reasonable limits.

Dr. Ball and Dr. Salley stated that they would like to have the thinking of Council before the meeting in New York. They wondered, for example, whether Virginia should continue to insist on having the suite at one session only during the year or whether it could go along with an alternate suggestion that food be eliminated and that the suite feature cocktails only.

It was the consensus that our Delegates should be permitted to use their good judgment under the circumstances. Dr. Stark moved that Council's previous action concerning only one session a year be rescinded and that our Delegates report on the New York meeting when Council meets in September. *The motion was seconded and carried.*

Health Training Facilities

Dr. Stark reported that a health training facility has been proposed for Wytheville Community College. Such facilities are used to train nurses, dental assistants, various types of technicians, etc. Dr. Stark went on to say that such a facility is very much needed in southwest Virginia and that endorsement by The Medical Society of Virginia would be most helpful.

There was some feeling that additional information was needed before a final decision concerning endorsement could properly be made. It was agreed that not all schools training various types of technicians can be approved.

Dr. Parker moved that The Medical Society of Virginia approve in principle the development of health training facilities at the community college level. *The motion was seconded.*

There followed considerable discussion during which the wish was expressed that The Medical Society of Virginia might have some means of studying the various grant proposals having medical implications.

Dr. Salley moved that debate be closed and his motion was adopted.

Dr. Parker's motion then carried by a vote of 5-4 with two members abstaining.

Tobacco Advertising

Considerable concern was expressed over the fact that The Medical Society of Virginia continues to accept tobacco advertising in the Virginia Medical Monthly and also exhibits at the Annual Meeting. This was said to be inconsistent with the fact that the Society will be officially represented on the Interagency Council on Smoking and Health. The general feeling seemed to be that it was time for The Medical Society of Virginia to take a firm stand in this regard. It was realized, however, that any action rejecting tobacco advertising would undoubtedly meet with some opposition. The thought was also expressed that the final decision should be the responsibility of the House of Delegates.

It was then moved by Dr. Hotchkiss that The Medical Society of Virginia no longer accept tobacco advertising in the Virginia Medical Monthly or tobacco exhibits at the Annual Meeting. *The motion was seconded and adopted.*

Sunday Meetings

A question was raised as to whether Council could not meet on a day other than Sunday. Dr. Carmines stated that, while he was in sympathy with those who do not particularly care for Sunday meetings, experience seemed to indicate that Sunday was most convenient for the majority.

June Dairy Month

The Society had received a request from the Vir-

ginia Dairy Products Association that Dr. Carmines be permitted to serve as Honorary Chairman of June Dairy Month.

It was pointed out that this could pose some difficulty since it would set a precedent for other food and drink associations claiming healthful benefits for their products.

It was then moved by Dr. Stark that, as a matter of policy, The Medical Society of Virginia not engage in any promotional activity where particular products are concerned. *The motion was seconded and adopted.*

There being no further business, the meeting was adjourned.

Robert I. Howard, *Secretary*

APPROVED:

F. Ashton Carmines, M.D., *President*

Southeastern Medicine and Religion Regional Meeting.

The meeting was held in Atlanta, Georgia, on March 15, and began with the Invocation by Fred Reed of Chapel Hill, North Carolina.

Dr. Paul B. McCleave, Director of the Department of Medicine and Religion of the American Medical Association, gave us a brief but comprehensive breakdown regarding the purpose of Medicine and Religion Programs in which he stressed the importance of close work between the physician and the clergy in our attempt to provide optimum total patient care both to the patient and to the entire family emphasizing the fact that individual faiths are not a barrier to our successful program and that, through a better understanding, faiths of all denominations could work toward our common goal.

He also stressed the importance of the physicians providing the leadership in activities of Medicine and Religion because figures of attendance, at previous meetings, have clearly shown that when medicine invites, clergy will attend in a better proportion than if the clergy does the inviting.

Mr. Arne Larson, Assistant Director, then discussed the task of the state committees, breaking them down into four phases—1. Feasibility, 2. Planning, 3. Production, 4. Follow-Up. He stressed the importance that a proper Follow-Up Phase was most necessary in assuring successful future programs.

After a break for coffee, Dr. Paul McCleave discussed the Seminary Program and we, in Virginia, were proud that we had five Seminary Programs in operation, headed by members of the Committee on Medicine and Religion of The Medical Society of Virginia.

Just prior to lunch, we had the privilege of seeing the film, "A Storm, A Strife" produced by the Department of Medicine and Religion, AMA, which again emphasized the need for closer cooperation between the physician and the clergy to provide total patient care.

After the luncheon, the representatives of each of the states in the Southeastern area were called upon to give a brief summary of the activities in each state.

We, from Virginia, were proud of our accomplishments so far and also reassured, in those areas in which we were not so successful, that other states had the same problems.

John Wyatt Davis, Jr., M.D.
Chairman, Medicine and Religion
The Medical Society of Virginia

Woman's Auxiliary....

An error in the omission of our charming president-elect's name from the list of officers in the December 1969 issue shall be rectified at this time by stating in bold letters our pride in having as our President-Elect **Mrs. Joseph Straughan** of Wise.

Timely Attention

. . . to Virginia's troubled youths has been given through the "Workshop on Mental Health Problems" held in Petersburg, March 10, 1969. Mrs. Julian L. Schwarz, Virginia's Mental Health Chairman, was the guiding light behind this well-planned, very successful program. This workshop is another step in understanding the issues which lay before us. One year of active investigation into the problems of Virginia's children and youth in addition to positive programs only serve to confirm our feelings that we have barely penetrated the surface. The analyses have proven the need and delineated the path of action to follow.

HOPE Needs Help

. . . This floating medical center, the good ship HOPE, is a complete town in itself with all necessary facilities for her 130-140 specialist teachers. "Through Project HOPE, the entire world sees the American people—acting privately outside of government—deeply concerned with the problems of other peoples." HOPE's objective is essentially teaching and their aim is to *work themselves out of a job!* The record shows .... more than *1000* Americans have volunteered their services to Project HOPE .... more than *4000* local medical personnel have been trained .... more than *two million* have benefited through immunization, examination and other services.

A *$5,000,000* annual budget is all this ship requires to keep it afloat. A donation of $5 enable 330 children to receive lifetime immunizations against polio, diphtheria, and whooping cough, ... *$10* will supply a baby oxygen and intensive care for fourteen hours in an incubator .... *$25* will furnish 1,250 children each a pint of milk made in the ship's own milk machine .... *$200* will sponsor one local nurse, laboratory technician, x-ray technician, pharmacist, physical therapist or dental technician .... *$450* will sponsor one local doctor in training, residency or internship.

There are other ways to help HOPE: such as obtaining kits to make children's bedclothes, available only for the asking by writing Project HOPE, 2233 Wisconsin Ave. N.W., Washington, D.C. 20007. Children's Grooming Kits may be assembled consisting of soap, washcloths, toothbrush, comb, toothpaste, or any other items deemed essential. These may be sent to the above address. A new film "Legacy of HOPE" is a 16mm, color film of SS HOPE's seven voyages during 1960-1967. This film is available from any of the Modern Talking Picture Service booking offices in the United States.

The members of the staff are dedicated to this work, and all participants agree that their time with Project HOPE is perhaps the most memorable and worthwhile time in their lives.

International Health Activities

Chairman, Mrs. William Bishop, says there is an urgent need for 1968-69 PDR's, Physician's Desk Reference, for missionary doctors around the world. Copies may be sent to:

Medical Assistance Programs, Inc.
327 Gundereson Drive
Coral Stream (Wheaton), Illinois 60187

Have You Noticed

The response recently of the television networks to the deluge of mail protesting violence on the programs. Who says mountains cannot be moved?

Editorial ....

Physician Sportsmen–Pour le Sport

THE PHYSICIAN AFIELD, as an active sportsman, has always been an intriguing situation particularly since so many people prefer spectator to participating type sports now. Those physicians who do participate follow a wide spectrum of choices, not the least of which are influenced by geography or the pocketbook. The problem, of course, is to find time for regular and frequent indulgence in the sports of choice so as to get maximum benefit without overtaxing one's self and to be able to ameliorate and adapt to less strenuous sports as he grows older if continuing to participate actively.

There are now several professional sports medicine groups both in this country and abroad. The International Federation of Sports Medicine, the American College of Sports Medicine, the Western Council of Sports Medicine, and the British Medical Sports Association attest to the ubiquity of interest in these endeavors. In addition, the American Medical Association sponsors annual meetings of the American Association for Health, Physical Education, and Recreation, which discusses current medical problems related to sports.

A concerted effort to enlist information on prominent physicians in sports from *Sports Illustrated,* newspapers, and the J.A.M.A. yielded rather meager returns. It had been hoped there might be a listing of physicians by sports in which they are active as well as their championships and other distinctions which they have achieved, but such was not available.

Arthur Conan Doyle, most famed as a physician-author, was also a prominent cricketeer and football (soccer) player. More recently, there have been several physicians who were outstanding as athletes. In football, who can forget the amazing exploits of Daniel J. Fortmann, now a California surgeon, as an all-professional guard for the Chicago Bears. This same physician was also an all-star player for Colgate University where he made All American honors. In 1950-51, William J. McCall made All American at Stanford University, and later starred for the Chicago Bears. Clarence W. Spears became an All American selection at Dartmouth College in 1914-15 and later coached in the Big Ten. Edward N. Anderson made All American at Notre Dame and later coached at Holy Cross. Marvin A. Stevens was honored as an All American at Yale in 1923 and later coached at New York University. William Osmanski, the mighty fullback, is another talented Chicago Bear player-physician. Kiyo Toshiro is currently participating as a halfback in the Atlantic

Coast Conference (professional) and is highly successful as a surgeon and footballer.

W. Barrie Wood, All American end for Yale, is never to be forgotten. Bobby Brown of Tulane and the New York Yankees, was a stellar attraction at third base for several years and starred in the World Series games with the Yankees. D. L. Adams and J. R. Purdy were members of an earlier professional baseball team in New York, the Knickerbockers Baseball Club. Horace Hicks, a general practitioner in Richmond, played the infield on the old Richmond Colts team.

John Feeney once ruled as lightweight boxing champion of California. He helped finance his education by fighting. Jackson, an English physician, was heavyweight boxing champion of the world, but this was in a much earlier day.

Tenley Albright, a practicing surgeon, won the world figure skating championship for women in Vienna for the second time ten years ago and the following year won the Olympic gold medal at Cortina.

Track and field have produced exceptionally gifted physician athletes. John K. Lattimer, a urologist, won the Millrose Games fifty-yard dash while an undergraduate at Columbia and later held the 200 meter hurdles record (A.A.U.) for 12 years. Charles Robbins of Connecticut, a middle distance runner, held at various times, eleven national titles. The great Roger Bannister, first man to run a mile under four minutes, beat John Landy (a non-physician) in the British Empire Games in Canada. Paul Martin, a Swiss runner, took second place in the 880 meter run at the 1924 Olympics. Patrick O'Callahan of Ireland won gold medals in the hammer throw at the Olympics of 1928 and 1932. He is the only physician to have won the gold medal twice in the Olympics. In 1936, Jack Lovelock, New Zealand runner, won the Olympic 1500 meter race as well as later holding world's records for the 1500 meter race outdoors and the mile outdoors. A Jamaican, Arthur Wint, won the 400 meter race in the 1948 Olympics. Harrison Flippen, University of Virginia, was undefeated in intercollegiate high hurdles.

Tennis champions among physicians include Reginald Wai of New York, Peter Fisher of Seattle, Paul Newton of Oakland and J. A. Crane of Berkeley. D. G. Freeman of Pasadena was once ranked fourth nationally. J. Dwight of Newport, New York, shared the men's doubles championship many years ago. Dr. J. Shelton Horsley III, a University of Virginia surgeon, has been city champion in Richmond and continues to play winning tennis.

Swimming and diving physician champions have the great ophthalmologist-diver, Major Sammy Lee, who was Olympic high platform diving champion in 1948 and 1952. George Kojac won a gold medal for the 100 meter backstroke in the 1928 Olympics. He also swam on the 800 meter relay team which won first place, and was in fourth place in the 100 meter free style.

Ralph Nichols, New Haven, is a consistent winner in golf in the American Senior National Championships. An English physician, W. Trueddell, in 1927, won at Hoylake, the British Amateur Golfing Championship. There are many prominent physician golfers, with Trueddell perhaps leading the field.

Fencing, with Olympic contestants J. R. Huffman and N. C. Armitage and seven times national saber champion T. Nyilas, billiards with L. P. Macklin, basketball with A. VandeWeghe, horsemanship with John Yarbrough, mountain climbing with Britons Ward, Pugh, and Evans, and the Scot, Matthews, revolver and pistol teams with J. R. Colkins, and polo with H. Blackwell are but a scattered few of the physician sportsmen greats in other events.

Virginia has its share of gentleman athletes, as is obvious by noting club rosters, or by scanning old college yearbooks, but perhaps the superstars have not yet emerged.

This report is obviously quite sketchy and, of necessity, limited in scope. Perhaps our readers would be interested in sending in names of other prominent Virginia or United States physician sportsmen.

Robert Edgar Mitchell, Jr., M.D.

The author has drawn freely from reports in *Sports Illustrated*, newspapers, and the J.A.M.A.

Taxes... Taxes... Taxes...

TWO YEARS AGO Sheldon S. Cohen, then Commissioner of the Internal Revenue Service, issued an edict based on a law passed in 1950, which was not relevant to the purpose he proposed to accomplish. The new regulations, in brief, provided that the sale of advertising in professional journals was not an activity "substantially related" to any purpose for which tax exemption had been granted in the past, even though the editorial content of such journals is designed to further their exempt purposes.

An editorial in the Virginia Medical Monthly (July 1967) pointed out that Mr. Cohen's ruling would impose a 48% tax on the net advertising of virtually all professional journals which serve as official publications of tax-free organizations. This would include such groups as the Boy Scouts of America, the American Heart Association, the National Paraplegic Foundation, the American Medical Association and, sorry to relate, The Medical Society of Virginia.

This zealous effort on the part of the Commissioner of Internal Revenue was brought to light by Representative Joel T. Broyhill, of Virginia's

Tenth Congressional District, in an address in the House of Representatives on April 25, 1967, when he introduced legislation designed to continue tax-free status to advertising in publications of educational, charitable and scientific nonprofit associations. Mr. Broyhill's bill, unfortunately, fell by the wayside for the legislators sensed additional revenue from Mr. Cohen's new mandate—more liquid assets to pour into Federal Operation Rathole.

A second attempt was made by an amendment voted on in the Senate on September 20, 1968, which would have prevented the Internal Revenue Service from enforcing for one year this ruling which would tax unrelated income from official publications by nonprofit organizations. It was hoped that this delay might permit opponents time to rally and kill Mr. Cohen's ruling. Twenty-two senators voted for the amendment, thirty-two against it. The only comfort we could derive from this was that one Virginia senator—The Honorable Harry F. Byrd, Jr.—voted aye. It is always reassuring to the physicians of Virginia to know that our senior senator is in Washington.

As matters stand the corporation income levy promulgated by the IRS and effective December 13, 1967, is due in 1969. An ironical sidelight to all this is that the Virginia Medical Monthly and doubtless the other state medical journals have been in the red ever since the late Senator Kefauver's committee curtailed the advertising of the larger pharmaceutical companies. This means the new levy will not be applicable until drug advertising returns in sufficient volume to put medical journals in the black, which appears highly unlikely in the foreseeable future.

H. J. W.

News ....

Calendar of Events

Infectious Disease and Hospital Infection Control—Sponsored by University of Virginia School of Medicine—Charlottesville—May 16-17, 1969.

Postgraduate Psychiatry Seminar for General Practitioners—Sponsored by Department of Psychiatry, University of Virginia School of Medicine—Admiralty Motor Hotel—Norfolk—May 16-18, 1969.

Cardiac Symposium—Sponsored by Montgomery County Heart Association—Washingtonian Motel—Gaithersburg, Maryland—May 21, 1969.

Conference on International Health—Sponsored by Office of International Health of the American Medical Association—LaSalle Hotel—Chicago, Illinois —May 22-23, 1969.

Neurology and the Internist—Sponsored by the American College of Physicians —Hotel Robert E. Lee—Winston-Salem, North Carolina—June 11-14, 1969.

Flying Physicians Association—Annual Meeting—Lake Placid Club —Essex County, New York—June 15-20, 1969.

American Medical Association—Annual Convention—New York—July 13-17, 1969.

Medical Aspects of Sports—Sponsored jointly by The Medical Society of Virginia and Virginia High School League—VPI Coliseum—Blacksburg—July 27, 1969.

Annual Seminar—Sponsored by Bluefield Sanitarium, Stevens Clinic and Clinch Valley Clinic—Bluefield Country Club—October 16, 1969.

The Medical Society of Virginia—Annual Meeting—Virginia Beach—October 16-19, 1969.

Southern Medical Association—Annual Meeting—Atlanta, Georgia—November 10-13, 1969.

Special Announcements

The Bristol Memorial Hospital, Bristol, Virginia, sponsors continuing education programs on every fourth Thursday morning. Details can be obtained from the office of the Administrator, Bristol Memorial Hospital, 209 Memorial Drive, Bristol.

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following new members were received into The Medical Society of Virginia during the month of March:

Haddon Christopher Alexander III, M.D., Roanoke
Reuben Hancock Broaddus, Jr., M.D., Richmond
Gerald Goldstein, M.D., Charlottesville
Ricardo Jaime Guardia, M.D., Newport News
Sung Yaik Han, M.D., Wise
Lawrence Allen Heavrin, M.D., Galax
Norris F. Hines, M.D., Clifton Forge
George William Johnson, M.D., Richmond
Stephen Michael Levin, M.D., Alexandria
Sim Clark Liddon, M.D., Charlottesville
Daniel Lim, M.D., Wise
Mehmet Hami Onder, M.D., Norton
William Edward Painter, M.D., Lynchburg
Rafael Porres, M.D., Roanoke
Norman Ronis, M.D., Reston
Charles McCarley Shortridge, M.D., Roanoke
William A. Weidner, M.D., Richmond

Errata.

An error occurred in the publication of the article on Osteitis Pubis Complicating Inguinal Herniorrhaphy by Drs. Allan Hall and Charles E. Manetz, Virginia Medical Monthly, March 1969, pages 154-156. The film at the bottom of page 155 should have had the legend figure 1, it being the initial film. The film at the top of the page should have been underlined with the legend of figure 2. The middle x-ray is the most recent study and it should have been covered with the legend of figure 3.

Dr. Richard N. Baylor,

Richmond, has joined the medical department of Reynolds Metals Company following 17 years of private practice in internal medicine. In addition to his local responsibilities, he will assist in the executive health program and the corporate medical program at the various plants of the company.

The Virginia Board of Medical Examiners

Will make an effort in carrying out this year's registration of physicians to obtain information as to the type of practice of every doctor in the State. This information will serve many good purposes. Each doctor is urged to complete the line on the registration application card which will show his type of practice.

Dr. John T. Dunn,

Assistant professor of internal medicine at the University of Virginia, is the winner of the 1968 Van Meter prize given by the American Thyroid Association for the best paper presented at its annual meeting. The paper, titled The Amino Acid Neighbors of Thyroxine in Thyroglobulin: Evidence for a Restricted Sequence, covers a two-year study of thyroid hormone manufacture in rabbits.

Immunosuppressive Therapy in SLE Nephritis.

The University of Virginia School of Medicine sections in Renal Disease and Rheumatology are cooperating in a double-blind, national study to evaluate Azathioprine (Imuran) in patients with SLE nephritis. Only patients who have not been treated with steroids are currently eligible. Patients deemed suitable will be admitted to the Clinical Research Center for baseline studies, renal biopsy, and initiation of treatment. *All* patients will receive corticosteroids and, in addition, either Imuran or placebo. Thus all patients will be receiving currently accepted treatment. Close follow-

up is essential. Address or phone inquiries to either: Dr. John S. Davis or Dr. Frederic B. Westervelt, University of Virginia Hospital, Charlottesville, Virginia 22901.

American Academy of Facial Plastic and Reconstructive Surgery.

Among those on the program of the annual meeting of this Society held in New Orleans, March 20-22, was Dr. John B. Gorman, Lynchburg, who presented a paper on The Correction of Nasal Speech Arising from Pharyngo-Palatal Incompetence Associated with Submucous Cleft Palate; Dr. W. A. Atiyeh, Richmond, who spoke on Mid-Facial Fractures; Dr. Gerald Gildersleeve, Richmond, on X-Ray Diagnosis of Facial Fractures; and Dr. John A. Gill, Richmond, participated in a session on medicolegal matters of concern to physicians attending the meeting.

American Medical Association.

The annual convention will be held in New York City, July 13-17.

Four general scientific sessions are planned: Human Sexuality; Physical Fitness and Aging; Impact of Medical Education on Patient Care; and Chronic Pulmonary Insufficiency and Air Pollution Problems. Each of 22 scientific sections will also present programs. The 23rd section—on special topics—plans six sessions: Drug Utilization; Mental Health Dynamics in the Pre-School Child; Disaster Planning for Aviation Accidents; Neurological Surgery; Nuclear Medicine; and Plastic and Maxillofacial Surgery.

Much of the scientific activity will be held at the Coliseum and the New York Hilton Hotel. There will be exhibits, color closed circuit television, and medical motion pictures.

The May 26 issue of The Journal of the American Medical Association will carry the full scientfic program.

Area Wide Planning.

The following resolutions were adopted by the Roanoke Academy of Medicine on April 7, 1969:

WHEREAS Acceptance and participation in Comprehensive Area Wide Planning by the Roanoke Academy of Medicine makes available to the program the very considerable knowledge possessed only by our profession; and

WHEREAS this approval and participation provides our profession with the opportunity to guide the direction of this planning which could result in a power structure affecting the practice of medicine for decades to come; now therefore be it

RESOLVED that the above not withstanding, that participation in and approval of does not in fact nor by implication embrace the philosophy which places the control of the efforts of our profession in the majority hands of nonmedical people; and be it further

RESOLVED that the Roanoke Academy of Medicine will remain alert to detect and when necessary interpose safeguards against and vigorously protest any development of the program which will in any way encroach upon or interfere with the traditional mechanism of medical care and with the freedom of private practice of medicine; and be it further

RESOLVED that the Roanoke Academy of Medicine continue to support the efforts of the AMA to bring about changes in the Partnership for Health Legislation as follows:

1. Better definition of the services to which the law is focused.
2. Provide for more practicing physician representation at both the state and area wide level.
3. De-emphasize the majority role of consumers at both these levels.
4. Give more emphasis to the role of State Advisory Council.
5. Limit government fiscal support at

the Area Wide Planning Agency level to 50 percent, not 75.

6. Eliminate language which at the area wide level permits an advantage to local government groups which, according to the present terms of the law give such bodies a veto power over a private non-profit agency seeking a planning designation.

Pediatric Practice.

Well established in Northern Virginia. Buy equipment and take over lease in new modern medical building. Will introduce if desired. Write #150, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Emergency Department Physician.

Mary Washington Hospital, Fredericksburg, Virginia, wishes to begin a medical staff and hospital board approved, full-time emergency department physician program. Fee for service basis with guaranteed minimum income. Estimate 16,000 to 17,000 E. R. patients in 1969. Interested physicians please contact Harry Bach, Administrator. Telephone 373-4110. (*Adv.*)

Wanted Full-Time Staff Physician

For student health services at Virginia Polytechnic Institute, Blacksburg. For further information, write or call Emory R. Irvin, M.D., Blacksburg, Virginia 24060. Phone 552-6444. (*Adv.*)

Physicians Wanted.

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Obituary . . . .

Dr. Philip Stephenson Smith,

Abingdon, died March 14, at the age of eighty-three. He graduated from the Medical College of Virginia in 1916 and had practiced in Abingdon since that time. Dr. Smith was one of the original founders of the Johnston Memorial Clinic and was for many years a member of the staff of Johnston Memorial Hospital. He was a veteran of World War I. Dr. Smith had been a member of The Medical Society of Virginia for forty-nine years.

Dr. James Marion Suter,

Abingdon, died April 4, after a short illness. He was sixty-one years of age and a graduate of the George Washington University School of Medicine. Dr. Suter was deputy director, division of local health services in Abingdon. He was a retired lieutenant colonel in the Army Medical Corps. Dr. Suter had been a member of The Medical Society of Virginia for twenty-seven years.

His wife and a son survive him.

Dr. Henry Wilson Williams,

And his wife, Virginia Mason Williams, of Petersburg, died March 30, within fifteen minutes of each other, apparently after suffering heart attacks. Dr. Williams was fifty-nine years of age and a graduate in medicine from Howard University in 1933. He was a member of the staff of the Petersburg General Hospital and served as chief of the general practice section in 1964. Dr. Williams was a member of The Medical Society of Virginia, having joined in 1956.

A son and a grandson survive them.

Dr. Crawford,

Resolution Adopted Unanimously by the Medical Staff of King's Daughters' Hospital in Memory of J. Granville Crawford, M.D.

Dr. J. Granville Crawford came to Staunton in 1947 and opened his office at 16 East Frederick Street, where he practiced medicine until his untimely death on 30 December 1968.

He was born in Lewisburg, West Virginia, on 5 November 1914, and was graduated from the University of Virginia School of Medicine in 1939.

He interned at University of Virginia Hospital in medicine, and U. S. Marine Hospital, Baltimore, in surgery. He then had residency at U. S. Public Health Service Hospital, Lexington, in psychiatry, and was on the Staff at Blue Ridge Sanatarium.

During World War II he served as a medical officer in the U. S. Public Health Service.

During his residence in Staunton he was active in the Augusta County Medical Association, on the Staff of King's Daughters' Hospital, and in the First Presbyterian Church in addition to an active medical practice.

He will be sorely missed by his many friends, associates and patients.

Dr. Campbell.

A most beloved practitioner of medicine, Glen C. Campbell, M.D., died suddenly February 20, 1969, of a coronary occlusion at 77 years, after practicing in Staunton since 1930. Before this time he had graduated at Washington and Lee University and received his M.D. at the University of Virginia, June 15, 1920. Following an internship and residency training at Chester County Hospital, Westchester, Pennsylvania, 1927 to 1930, he practiced in Brownsburg, Virginia, until coming to Staunton.

During his practice here in Staunton it is recorded that he delivered at least 8,000 babies. He was known as a most careful practitioner of both obstetrics and medicine. He had the happy faculty of knowing consultation was needed, particularly in the obstetrical field, and the diagnosis was usually clear before the consultant was called in. He was never known to lose his temper, nor to grumble no matter what hour he was called. Complaint was not a part of his nature.

He retired from active practice of obstetrics in April 1963, but always saw patients whom he had seen through the years in a medical way up until the time of his death. Also during this time of so-called retirement, he was assistant to the pathologist at King's Daughters' Hospital for whom he did an invaluable job until the time of his death.

The passing of his kind will always be missed and remembered by those who had the pleasure of his association.

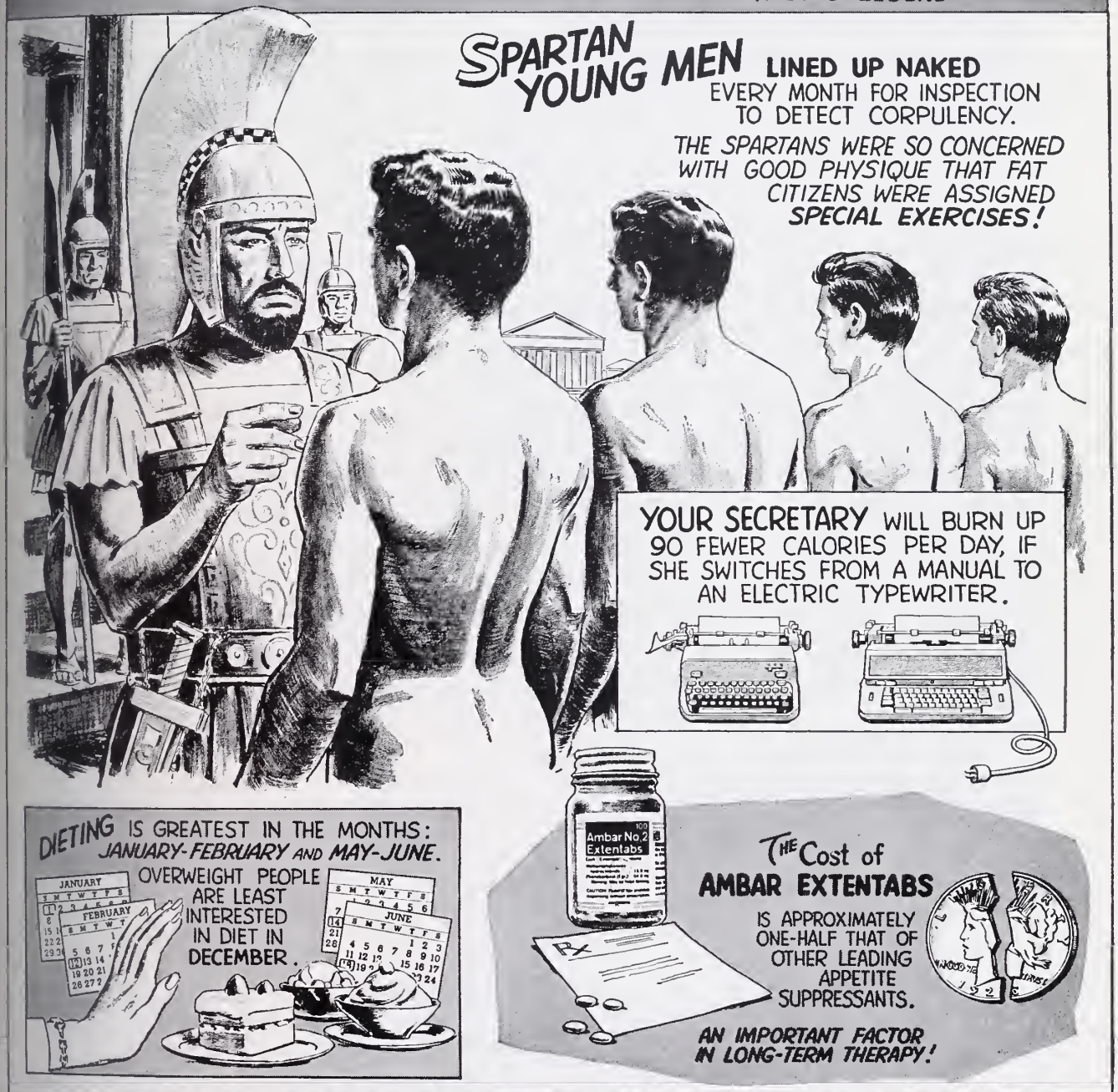
Be it resolved, therefore, that a copy of this record be placed in the minutes of the Medical Staff of King's Daughters' Hospital, a copy sent to the family, to the Augusta County Medical Association, and The Medical Society of Virginia.

Richard P. Bell, Jr., M.D.

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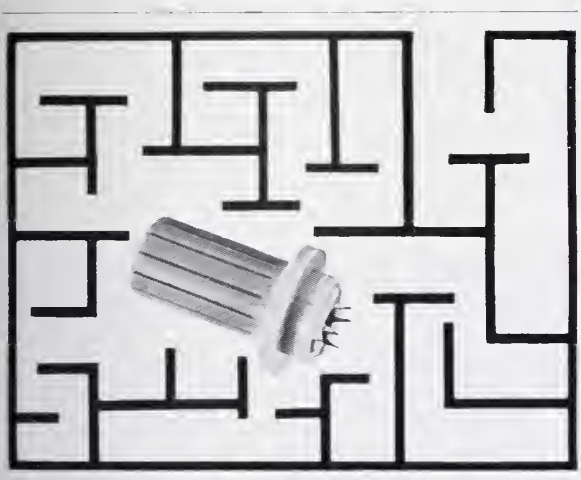
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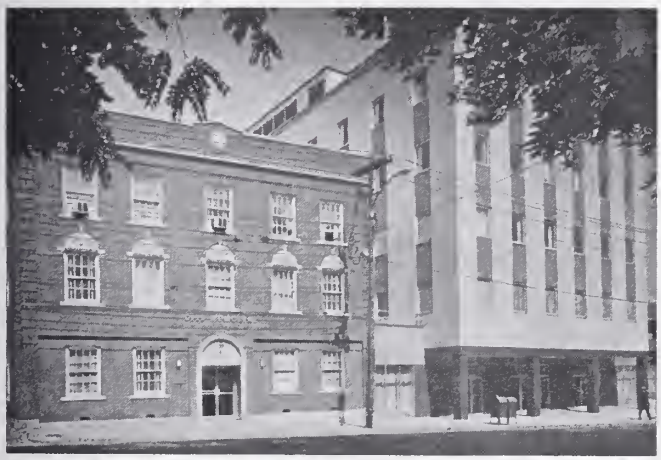
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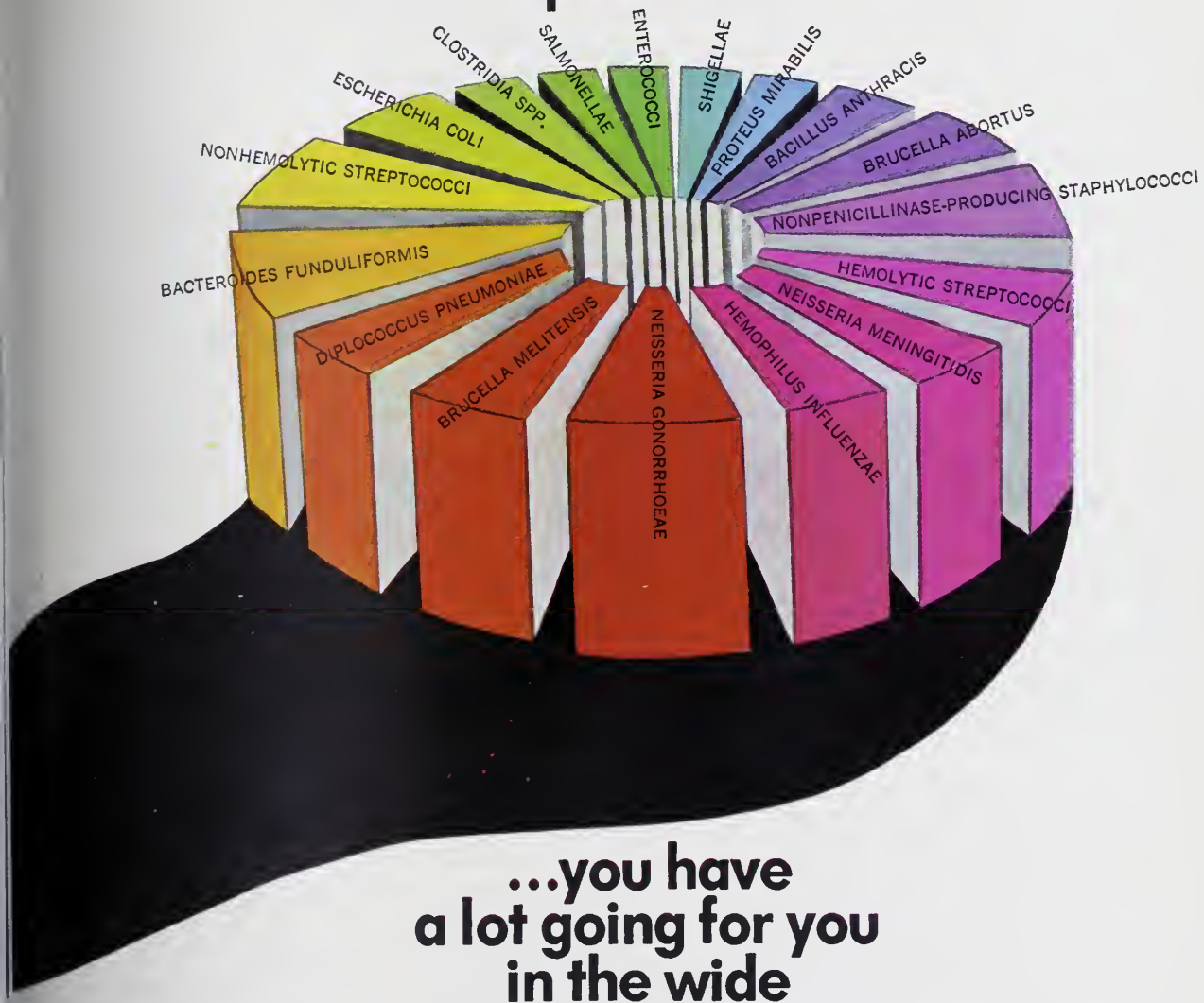
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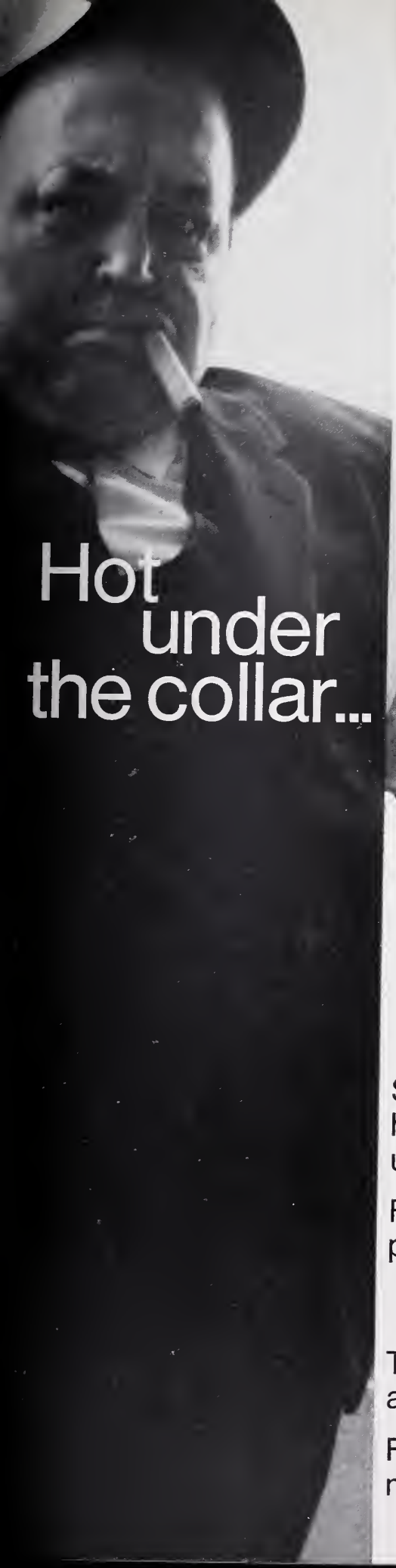
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Precautions: Antihypertensive therapy with this drug should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. To avoid hypotension during surgery, discontinue therapy with this agent two weeks prior to elective surgical procedures. In emergency surgery, use, if needed, anticholinergic or adrenergic drugs or other supportive measures as indicated. Because of the possibility of progression of renal damage, periodic kidney function tests are indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated. Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, the drug should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.
Take particular care in cirrhosis or severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Severe salt restriction is not recommended. Use cautiously in patients with ulcerative colitis or gallstones (biliary colic may be precipitated). Bronchial asthma may occur in susceptible patients.
Adverse Reactions: The drug is generally well tolerated. The most frequent side effects are nausea, gastric irritation, vomiting, diarrhea, constipation, muscle cramps, headache, dizziness and acute gout. Other potential side effects include angina pectoris, anxiety, depression, bradycardia and ectopic cardiac rhythms (especially when used with digitalis), drowsiness, dull sensorium, hyperglycemia and glycosuria, hyperuricemia, lassitude, restlessness, transient myopia, impotence or dysuria, orthostatic hypotension which may be potentiated when chlorthalidone is combined with alcohol, barbiturates or narcotics, leukopenia, aplastic anemia, skin rashes, thrombocytopenia, agranulocytosis, nasal stuffiness, increased gastric secretions, nightmare, purpura, urticaria, ecchymosis, weakness, uveitis, optic atrophy and glaucoma, and pruritus. Eruptions and/or flushing of the skin, a reversible paralysis agitans-like syndrome, blurred vision, conjunctival injection, increased susceptibility to colds, dyspnea, weight gain, decreased libido, dryness of the mouth, deafness, anorexia, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Jaundice, xanthopsia, paresthesia, photosensitization and necrotizing angiitis are possible.
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*Avoids constipation.

an antacid formulated especially for the constipation-prone patient

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250 mg. aluminum hydroxide (Warner-Chilcott)
200 mg. magnesium hydroxide

*U.S. Patent No. 3,326,755

a consistent buffering anticostive† antacid

†Avoids constipation.

See next page for prescribing information ▶

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especially for the constipation-prone patient

Indications: Gelusil-M is indicated for prompt and dependable symptomatic relief of peptic ulcer, gastritis, heartburn, hiatal hernia, esophagitis, and other conditions for which control of gastric hyperacidity is required.

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Dosage: One to two teaspoonfuls (5 ml. to 10 ml.) between meals and at bedtime or whenever symptoms occur. Certain conditions, such as acute peptic ulcer, may require individualized dosage. If diarrhea occurs, reduce dosage or discontinue use.

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Dosage: 2 teaspoonfuls (4 ml. each)—or more—between meals and at bedtime, or whenever symptoms occur.

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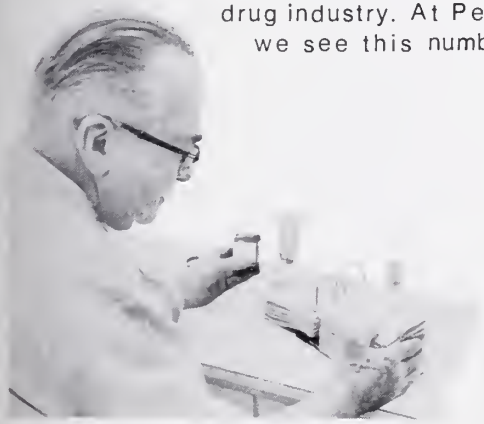
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Before prescribing, please consult complete product information, a summary of which follows:
Indications: Indicated when anxiety, tension and apprehensian are significant components of the clinical profile.
Contraindications: Patients with knawn hypersensitivity to the drug.
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution ir administering ta addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), fallawing discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, ar in women of childbearing age requires that its potential benefits be weighed against its passible hazards.
Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxic or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally nat recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use af potentiatin drugs such as MAO inhibitars and phenothiazines. Observe usual precautians in presence of impaired renal or hepatic functian. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Emplo usual precautions in treatment of anxiety states with evidence af impending depressian; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by praper dosage adjustment, but are also occasionally abserved at the lawer dasage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increase and decreased libido—all infrequent and generally controlled with dasage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Virginia

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Literature on indications and dosage available on request.

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References:
(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.



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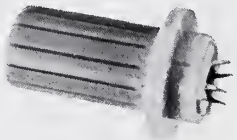
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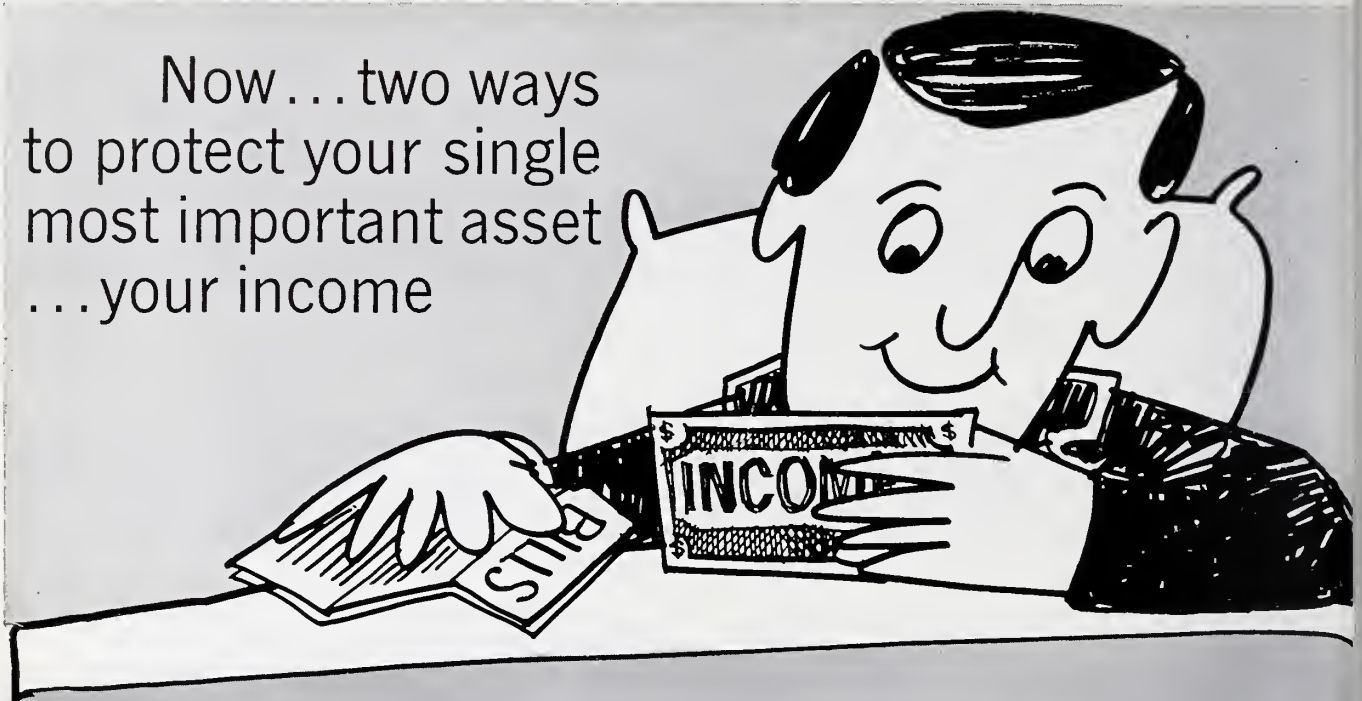
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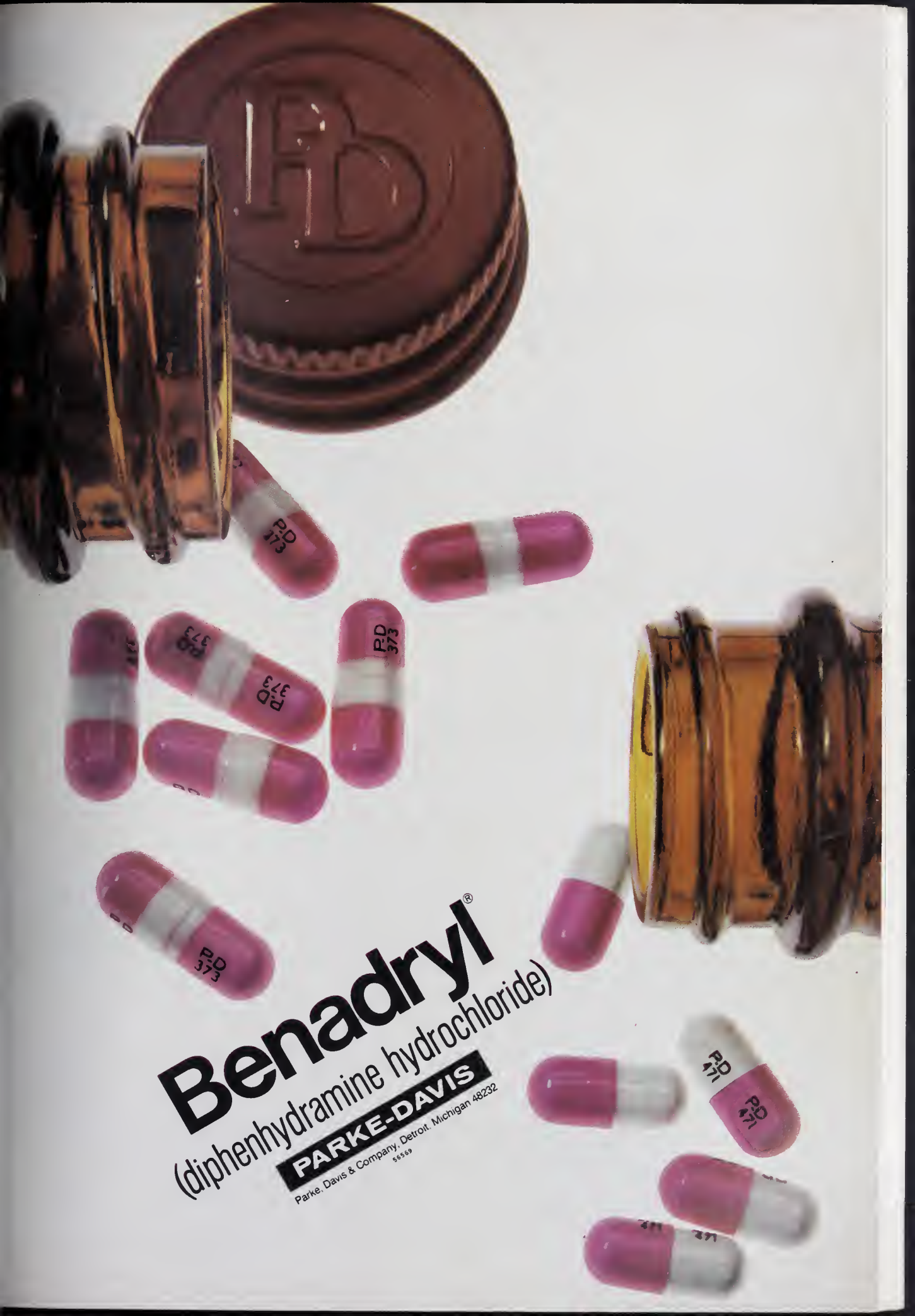
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Indications: Flagyl is indicated in the treatment of trichomoniasis in both men and women.

Contraindications: Pregnancy; disease of the central nervous system; evidence or history of blood dyscrasia.

Precaution: Complete blood cell counts should be made before, during and after therapy, especially if a second course is necessary.

Side Effects: Infrequent and minor side effects include nausea, metallic taste and furry tongue. Gastrointestinal disturbances, flushing and headache sometimes occur, especially with concomitant ingestion of alcohol. The taste of alcoholic beverages may be altered. Other effects, all reported in an incidence of less than 1 per cent, are diarrhea, dizziness, vaginal dryness and burning, dry mouth, rash, urticaria, gastritis, drowsiness, insomnia, pruritus, sore tongue, darkened urine, anorexia, vomiting, epigastric distress, dysuria, depression, vertigo, incoordination, ataxia, abdominal cramping, constipation, stomatitis, numbness or paresthesia of an extremity, joint pains, confusion, irritability, weakness, cystitis, pelvic pressure, dyspareunia, fever, polyuria, incontinence, decreased libido, nasal congestion, proctitis and pyuria. Elimination of trichomonads may aggravate candidiasis.

Dosage and Administration: *In women:* one 250-mg. oral tablet three times daily for ten days. A vaginal insert of 500 mg. is available for local therapy when desired. When used, one vaginal insert should be placed high in the vaginal vault each day for ten days; concurrently two oral tablets should be taken daily.

In men: When trichomonads are demonstrated, one 250-mg. oral tablet twice daily for ten days in conjunction with treatment of his female partner.

Dosage Forms: Oral tablets—250 mg.
Vaginal inserts—500 mg.

*Complete list of references on request.

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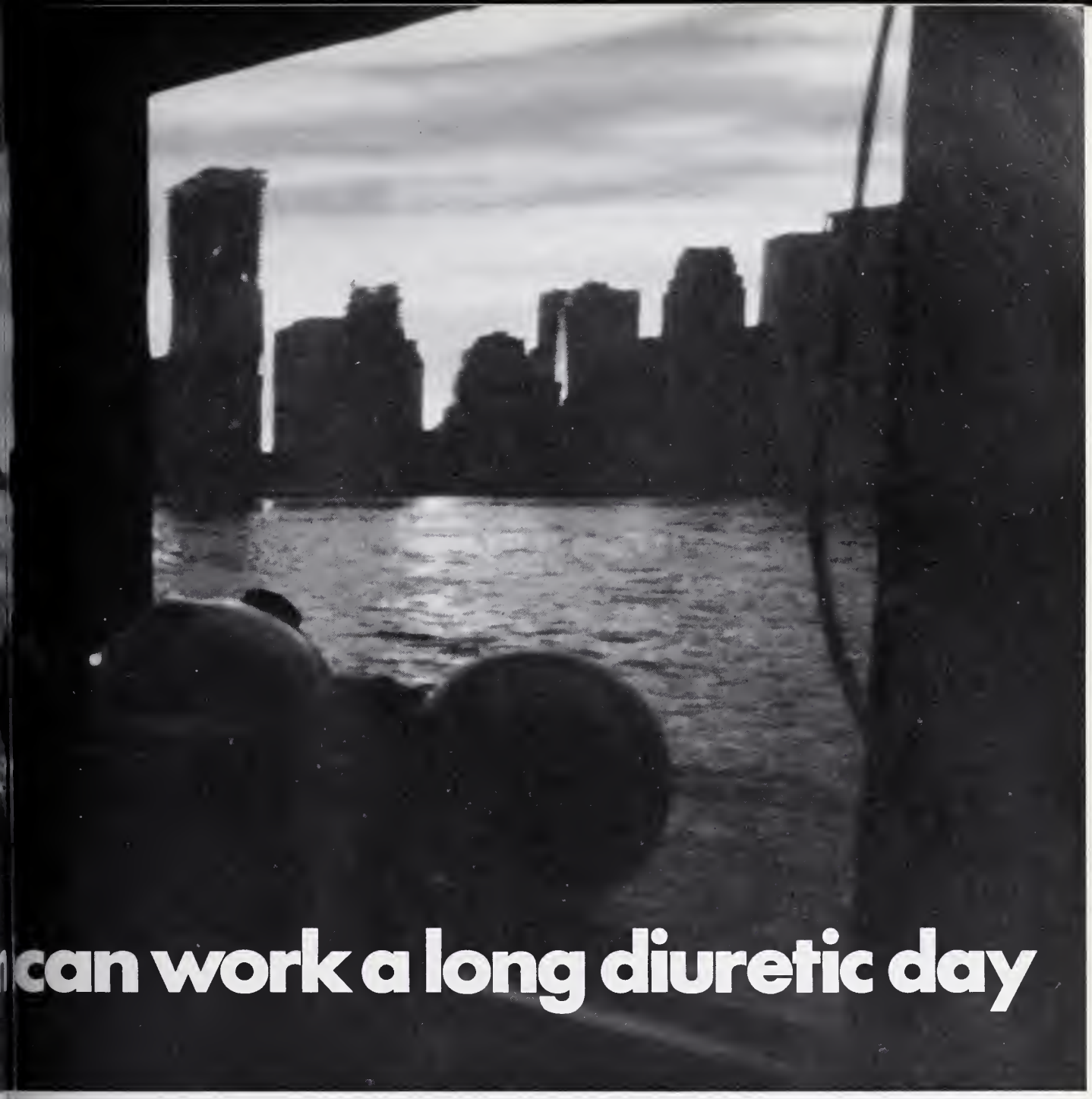




A little Hygroton

chlorthalidone

HY 6674



**all the way from one daily tablet to the next
to help control edema and hypertension**

Its prolonged action usually provides smooth, sustained diuretic effectiveness; real one-a-day dosage, right from the start; convenience and economy.

Hygroton, chlorthalidone, can cause side effects. And it's contraindicated in hypersensitivity to the drug and severe renal and hepatic diseases.

Check the prescribing information. It's summarized on the next page.

Geigy



A little Hygroton® can work a long diuretic day

chlorthalidone

Indications: Hypertension and many types of edema involving retention of salt and water.

Contraindications: Hypersensitivity and most cases of severe renal or hepatic diseases.

Warning: With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small-bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has been required frequently and deaths have occurred. Discontinue enteric-coated potassium supplements immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur.

Use with caution in pregnant women and nursing mothers since the drug may cross the placental barrier and appear in cord blood and since thiazides may appear in breast milk. The drug may result in fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. When used in women of childbearing age, balance benefits of drug against possible hazards to fetus.

Precautions: Antihypertensive therapy with this drug should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. Because of the possibility of progression of renal damage, periodic determination of the BUN is indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated.

Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, the drug should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.

Take special care in cirrhosis or severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended.

Adverse Reactions: Nausea, gastric irritation, vomiting, anorexia, constipation and cramping, dizziness, weakness, restlessness, hyperglycemia, glycosuria, hyperuricemia, headache, muscle cramps, orthostatic hypotension, which may be potentiated when chlorthalidone is combined with barbiturates, narcotics or alcohol, aplastic anemia, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin rashes, urticaria, purpura, necrotizing angiitis, acute gout, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Other reactions reported with this class of compounds include: jaundice, xanthopsia, paresthesia, and photosensitization.

Average Dosage: 50 or 100 mg. with breakfast daily or 100 mg. every other day.

Availability: White, single-scored tablets of 100 mg. and aqua tablets of 50 mg., in bottles of 100 and 1000.

(B)46-230-E

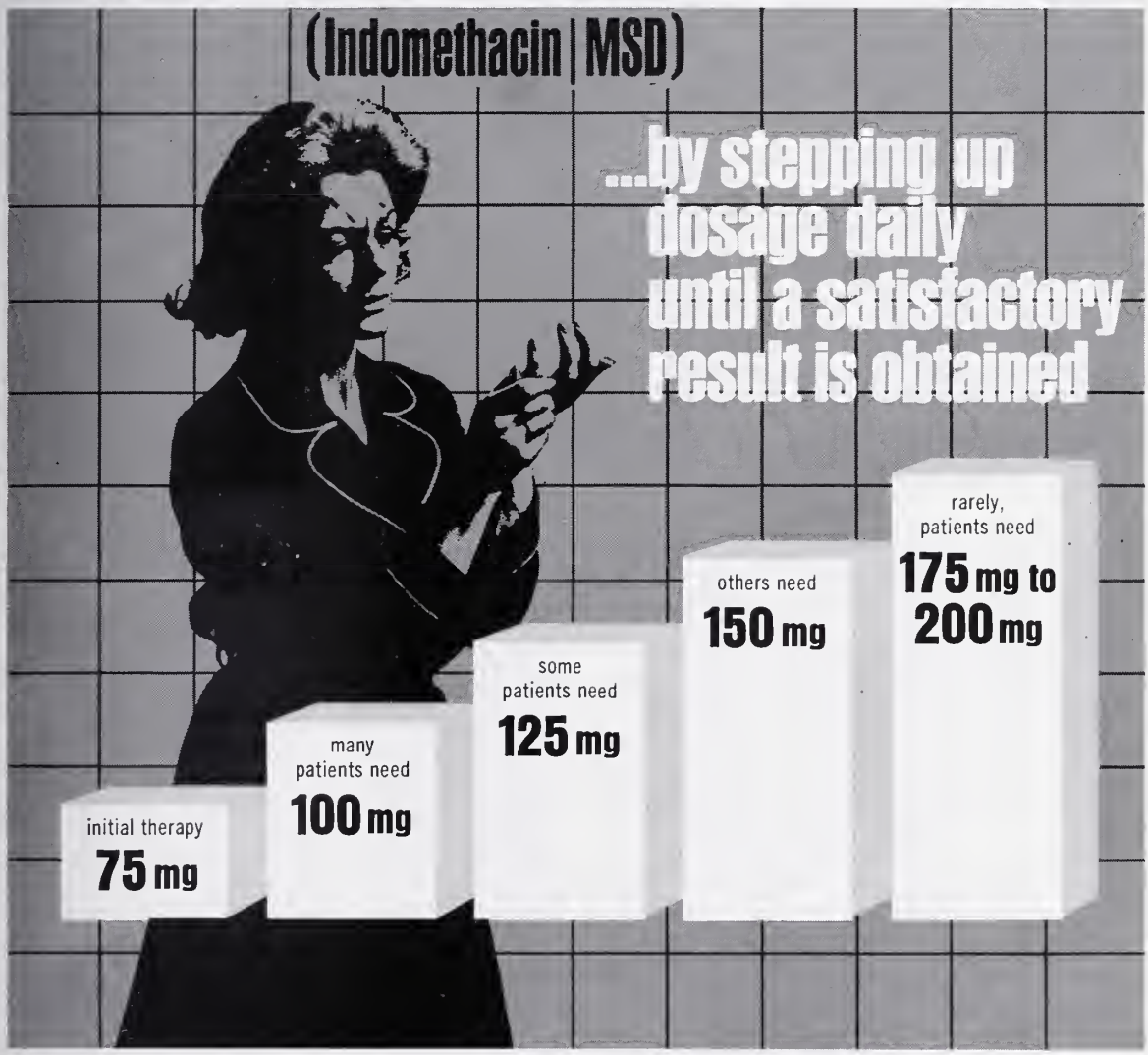
For full details, please see the complete prescribing information.

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
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HY-6674

In selected cases of rheumatoid arthritis with acute symptoms

Response to INDOCIN® is often improved...



Many patients with acute rheumatoid arthritis or acute episodes of chronic rheumatoid arthritis can be controlled by increasing the dosage 25 mg *per day* (to the allowable maximum) until the episode subsides; the dosage should then be reduced gradually to maintenance levels. Few require the maximum (175–200 mg).

In the event the patient develops adverse effects, dosage should be reduced to tolerated levels for 2 or 3 days and then gradually increased by 25 mg every few days as tolerated. G.I. effects may be minimized by giving INDOCIN with food, antacids, or immediately after meals.

Now in two strengths
25 mg and 50 mg



Actual Size

INDOCIN®
(Indomethacin | MSD)

IMPORTANT NOTE: INDOCIN (Indomethacin, MSD) cannot be considered a simple analgesic and should not be used in conditions other than those recommended under *Indications*. The drug should not be prescribed for children because safe conditions for use have not been established.

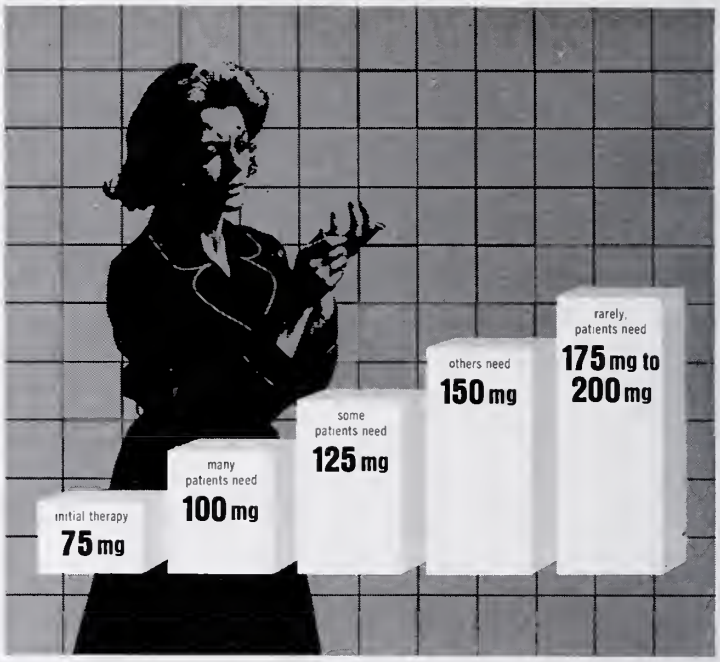
CONTRAINDICATED:

- in aspirin-sensitive asthmatics
- during pregnancy or lactation
- in children
- INDOCIN may mask the signs and symptoms of peptic ulcer and may cause ulceration or irritation of the G.I. tract. Therefore, do not give in active peptic ulcer, gastritis, regional enteritis, ulcerative colitis, and use with caution if there is a history of these disorders.

For additional prescribing information, please see following page.

In selected cases
of rheumatoid arthritis
with acute symptoms

Response to INDOCIN® (Indomethacin | MSD) is often improved by stepping up dosage daily until a satisfactory result is obtained



IMPORTANT NOTE: INDOCIN (Indomethacin, MSD) cannot be considered a simple analgesic and should not be used in conditions other than those recommended under Indications. The drug should not be prescribed for children because safe conditions for use have not been established.

Indications: For the symptomatic treatment of rheumatoid arthritis, rheumatoid (ankylosing) spondylitis, degenerative joint disease (osteoarthritis) of the hip, and gout.

Contraindications: INDOCIN may mask the signs and symptoms of peptic ulcer and may itself cause peptic ulceration or irritation of the G.I. tract. For these reasons it should not be given to patients with active peptic ulcer, gastritis, regional enteritis, or ulcerative colitis (use with caution if there is history of these disorders); aspirin-sensitive asthmatics. Safe use during pregnancy or during lactation has not been established. Should not be prescribed for children because safe conditions for use have not been established. In a few cases of severe juvenile rheumatoid arthritis receiving INDOCIN along with other drugs, severe reactions, including fatalities, have been reported.

Warnings: Patients who experience dizziness, lightheadedness, or feelings of detachment on INDOCIN should be cautioned against operating motor vehicles or machinery, climbing ladders, etc. Use cautiously in patients with psychiatric disturbances, epilepsy, or parkinsonism since it may aggravate these conditions.

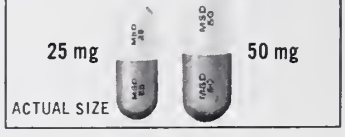
Precautions: Use cautiously in patients with a history of peptic ulcer, gastritis, regional ileitis, or ulcerative colitis because of its potential for causing G.I. bleeding. May cause single or multiple ulceration of the esophagus, stomach, duodenum, or small intestine, and, in a few instances, severe bleeding and perforation with a few fatalities have been reported. May potentiate the ulcerogenic effect of steroids, salicylates, or phenylbutazone. Gastrointestinal bleeding with no obvious ulcer formation has also been noted; the drug should be discontinued if G.I. bleeding occurs. As a result of obvious or occult G.I. bleeding, some patients may manifest anemia, and for this reason periodic hemoglobin determinations are recommended. G.I. effects may be minimized by giving the drug with food or with antacids or immediately after meals. In common with other drugs that have anti-inflammatory, analgesic, and antipyretic properties, indomethacin may mask the signs and symptoms of infection; avoid undue delay in initiating appropriate treatment of the infection; use cautiously in patients with existing, but controlled, infections. As with any new drug, patients should be followed carefully to detect unusual manifestations of drug sensitivity.

Adverse Reactions: Starting therapy with low doses, with gradual increases when necessary, will minimize adverse reactions. *Central Nervous System:* Most commonly, headache (usually more severe in morning), dizziness, and lightheadedness; infrequently observed reactions include mental confusion, drowsiness, convulsions, coma, depression, and other psychic disturbances, such as depersonalization; CNS effects are often transient and frequently disappear with continued treatment or reduced dosage. The severity of these effects may occasionally require cessation of therapy. *Gastrointestinal:* Most commonly, nausea, anorexia, vomiting, epigastric distress, abdominal pain, and diarrhea; others that may develop are ulceration, single or multiple, of esophagus, stomach, duodenum, or small intestine, including perforation and hemorrhage with a few fatalities having been reported; G.I. bleeding without obvious ulcer formation, increased abdominal pain in patients with preexisting ulcerative colitis; less commonly, stomatitis; gastritis; bleeding from the sigmoid colon, occult in type or from a diverticulum, and perforation of preexisting sigmoid lesions (diverticulum, carcinoma); G.I. reactions not known definitely to be attributable to indomethacin include development of ulcerative colitis and of regional ileitis. *Hepatic:* Rarely, jaundice and hepatitis. *Cardiovascular-Renal:* Infrequently, edema, elevation of blood pressure, and hematuria. *Dermatologic-Hypersensitivity:* Infrequently, pruritus, urticaria, angioneurotic edema, angiitis, skin rashes, loss of hair, and acute respiratory distress including sudden dyspnea and asthma. *Hematologic:* Infrequently, leukopenia, purpura, and thrombocytopenia; rarely, agranulocytosis and bone marrow depression have been reported, but a definite relationship to the drug has not been established; since some patients may manifest anemia secondary to obvious or occult G.I. bleeding, periodic hemoglobin determinations are recommended. *Eye-Ear:* Infrequently, tinnitus, blurred vision, hearing disturbance, and orbital and periorbital pain. *Miscellaneous:* Rarely, vaginal bleeding, hyperglycemia, and glycosuria.

Supplied: Capsules containing 25 mg indomethacin each, in bottles of 100 and 1000; capsules containing 50 mg indomethacin each, in bottles of 100.

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Before prescribing, see complete prescribing information in SK&F literature or *PDR*.
Contraindications: Hyperexcitability, undue restlessness, hyperthyroidism, porphyria; in patients on MAO inhibitors.
Precautions: Use with caution in patients hypersensitive to sympathomimetics or barbiturates and in coronary or cardiovascular disease or severe hypertension. Excessive use of the amphetamines by unstable individuals may result in a psychological dependence. Rarely, symptoms of toxic psychosis (hallucinations, confusion, panic states, etc.) may occur with amphetamines, usually after prolonged high dosage. In these instances, withdraw the medication. Use cautiously in pregnant patients, especially in the first trimester.
Adverse Reactions: Overstimulation, restlessness, insomnia, g.i. disturbances, diarrhea, palpitation, tachycardia, elevated blood pressure, tremor, sweating, impotence and headache.
Supplied: In bottles of 50.

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brand of dextroamphetamine sulfate and amobarbital

Spansule®

brand of sustained release capsules

curbs appetite
encourages normal activity
dispels diet discouragement

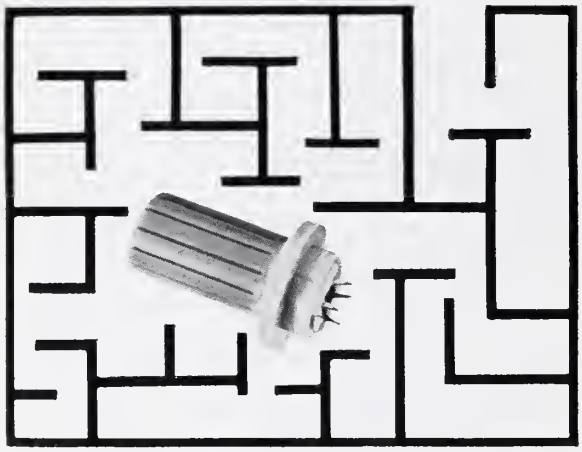
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Discriminating
Eye Physician

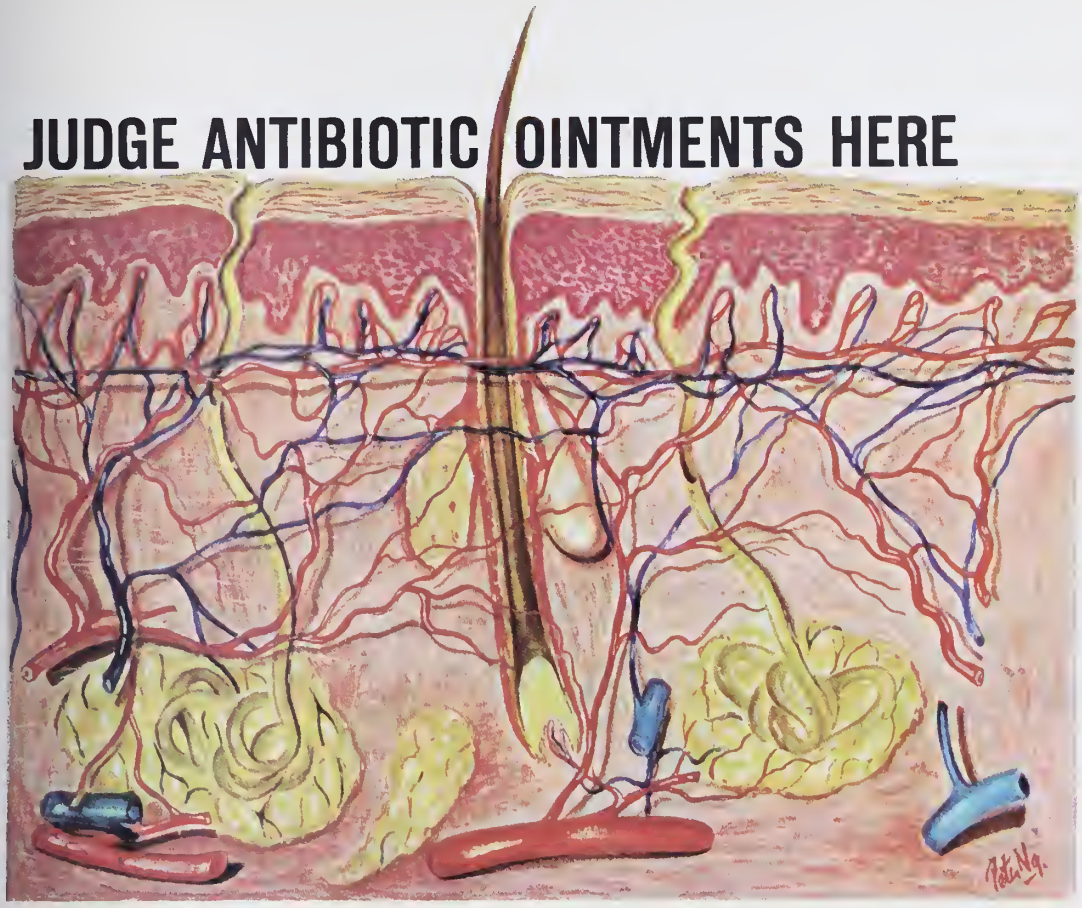
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Caution: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Contraindications: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

Supplied: Tubes of 1 oz., ½ oz. with applicator tip, and ⅛ oz. with ophthalmic tip.

Complete literature available on request from Professional Services Dept. PML.

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Mild ulcerative colitis may be triggered here...



In mild ulcerative colitis, a number of factors can precipitate an attack: for instance, dietary indiscretion, such as eating raw foods, or emotional overreaction, such as that aroused by financial difficulties. No matter what causes the patient's sensitive colon to "act up," he soon suffers from acute discomfort...and often, from anxiety and apprehension as well. Such patients frequently respond well to adjunctive dual-action Librax® therapy.

Librax combines, in a single convenient capsule, the well-known antianxiety effect of Librium® (chlordiazepoxide HCl) and the dependable anticholinergic/antispasmodic effect of Quarzan® (clidinium Br). Therefore, as Librax helps to relieve the patient's excessive anxiety and reduce his overreaction to stress, it also, at the same time, helps to control hypersecretion and hypermotility, thus relieving spasm and abdominal discomfort.

With Librax, the dosage schedule is simple: 1 or 2 capsules, t.i.d. or q.i.d., will in most cases bring the patient significant relief of both the emotional and physical elements that contribute to his psychovisceral disorder.

Before prescribing, please consult complete product information, a summary of which follows.

INDICATIONS: Indicated as adjunctive therapy to control emotional and somatic factors in gastrointestinal disorders.

CONTRAINDICATIONS: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

WARNINGS: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

PRECAUTIONS: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and toler-

or here.



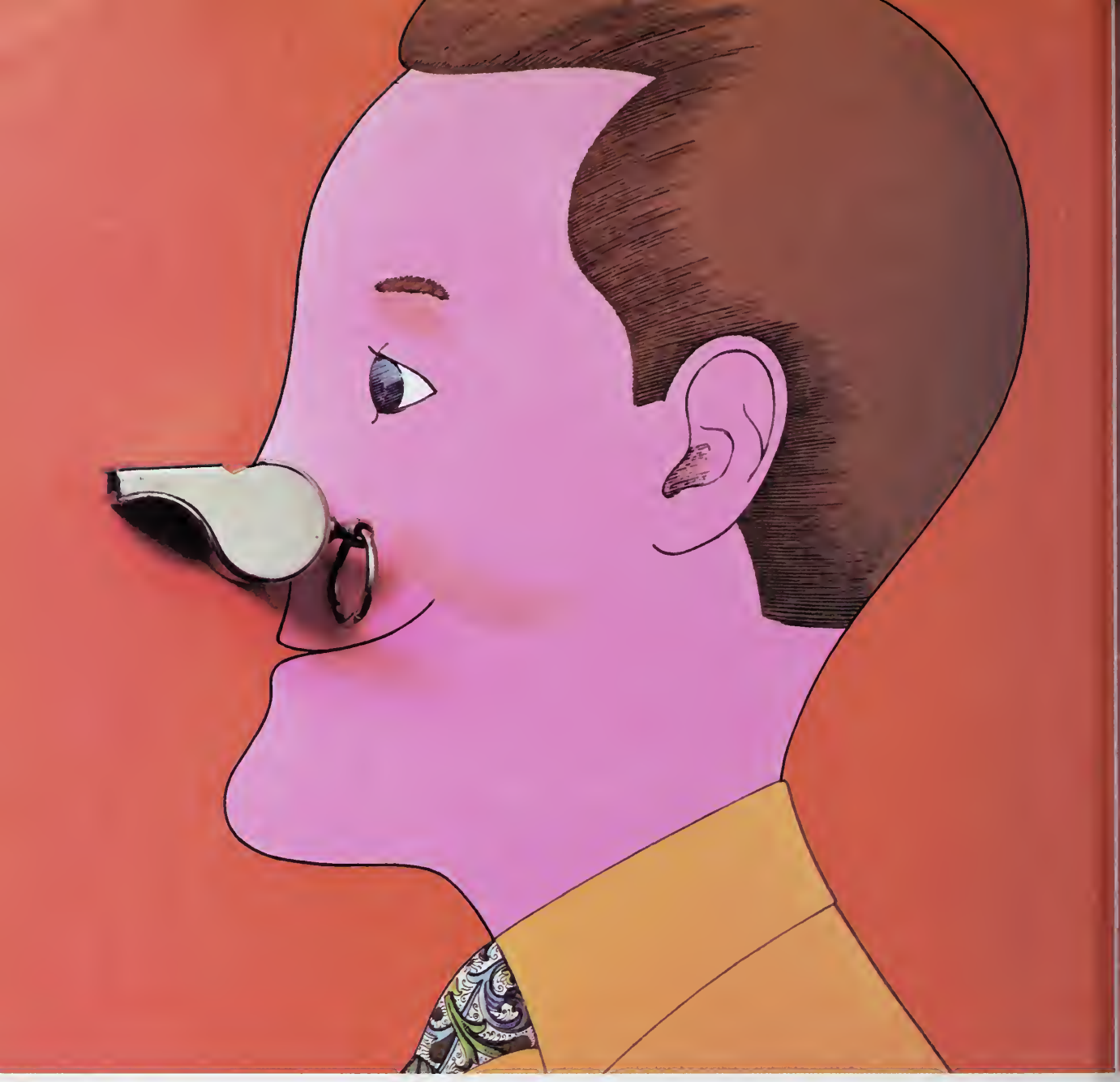
ated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression: suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

ADVERSE REACTIONS: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver-function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics, and/or low residue diet.

two good reasons for prescribing LIBRAX®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

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Dimetapp Extentabs® does an outstanding job of helping to clear up the stuffiness, drip and congestion of colds and upper respiratory allergies and infections. Each Extentab keeps working up to 12 hours. And for most patients drowsiness or overstimulation is unlikely. Try Dimetapp. It clearly works.

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UP TO 12 HOURS CLEAR BREATHING ON ONE TABLET

Indications: Dimetapp is indicated for symptomatic relief of the allergic manifestations of respiratory illnesses, such as the common cold and bronchial asthma, seasonal allergies, sinusitis, rhinitis, conjunctivitis, and otitis.
Contraindications: Hypersensitivity to antihistamines. Not recommended for use during pregnancy.
Precautions: Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.
Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia, have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.
Dosage: 1 Extentab morning and evening.
Supplied: Bottles of 100 and 500.

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The Virginia
MEDICAL MONTHLY

June, 1969
Vol. 96, No. 6
Whole No. 1405

Guest Editorial . . .

The Physician in Athletics

THE RESPONSIBILITY of the physician in his community has over the past few years increased in the field of sports medicine. The pre-participation examinations have made the work of the doctors increasingly bundersome and time consuming. Yet the responsibility is great. Should an injury or illness befall an athlete with a pre-existing potential then the physicians performing the pre-participation examination may be somewhat in a critical position. We are the final judges in determining a person's physical eligibility. Most all examinations forms have been made adequate and comprehensive by us.

With more leisure time offered individuals from their occupation and daily chores, more time is allowed for participation in some form of athletic programs, whether it be any individual team or participation or maybe it is some form of a non-competitive physical fitness program. This exposes the individual to more chance of acquiring an athletic illness or injury. Thus the demand on physicians is increased.

The most demanding sport which involves more physicians, more hours and probably more direct responsibility is that of the team physician in football.

The Medical Society of Virginia has made noteworthy strides to meet certain responsibilities to the coaches, trainers and physicians. Each July at the annual Virginia High School Coaches League one entire afternoon program is devoted to sports medicine under the sponsorship of our State society. At this time physicians, trainers, and coaches are briefed in the recognition and care of the injured player. This program could be expanded by invitation to include the coaching personnel at the college level, the private schools and those in elementary education.

Virginia citizens are fortunate in having one hundred and nineteen volunteer rescue squads. These dedicated men are invaluable in their services. Each year a three day advanced school directed primarily to the emergency care and transportation of the sick and injured is given with physicians as faculty at the Medical College of Virginia. This does not include the many basic courses in first aid given during the year at each squad headquarters. In our community a rescue squad vehicle with a crew is present at the city college and high school games. Not only does this give the best possible care on the field and transportation but it adds immensely to the morale of the players and coaches, and to say the least, of the parents. This arrangement is not only working very satisfactorily but can be established in all communities in our State. Through liaison with the local county medical society and the volunteer rescue squad, association coverage can be expected certainly at football games.

Nothing is more disturbing to the community than to have one of its young athletes suffer a severe injury or a fatality.

Virgil R. May, Jr., M.D.

2222 Monument Avenue
Richmond, Virginia 23220

Joint Medico-Legal Plan for Screening Medical Malpractice Cases

CARRINGTON WILLIAMS, JR., M.D.
Richmond, Virginia

ONE OF THE MOST DISTURBING ASPECTS of present-day medical practice is the frequency with which physicians are involved in professional malpractice action. It is not uncommon today to hear of a jury award of $1,000,000 or more to a patient who has been harmed by negligence or wrongful action on the part of a doctor. Cases such as this occur all too frequently in certain areas of the United States, and as a result the cost of insurance to protect doctors against suits for damages has skyrocketed to almost prohibitive levels. Nevertheless it is mandatory that we physicians carry malpractice insurance to protect us against valid claims, and also to assure that we will not be taken for a financial ride by unscrupulous individuals asserting non-meritorious claims against us. Every malpractice suit—justified or otherwise—brings with it publicity grossly unfavorable to the doctor, and the public literally eats up and digests all the dirt which can be printed about alleged wrongful acts by physicians. It seems to be the vogue nowadays to try to get something from the doctor whenever an unfavorable result follows treatment, and often completely non-meritorious claims are made in the hope of obtaining a negotiated settlement.

Inception of the Joint Medico-Legal Screening Panel dates back to the mid-1950's, at which time the cost of malpractice insurance had soared as a result of several large settlements. Aetna Casualty Company thereafter decided that it would no longer write malpractice insurance for any doctor who did not carry all his insurance with this company. The Medical Society of Virginia invited competitive bids from several casualty companies to write a group malpractice policy for members of the Society, and as a result the St. Paul Insurance Company now writes this insurance with the sanction of the Society.

Recognizing that widely publicized news regarding possible negligent action could cause irreparable damage to the physician's reputation, The Medical Society of Virginia, together with the Virginia State Bar, in 1962 developed the Joint Medico-Legal Panel for Screening Medical Malpractice Cases. Our attorney colleagues realized that medical malpractice cases were generally distasteful and harmful to the image of medicine, and they have cooperated fully in developing the Joint Medico-Legal Screening Panel. It is obvious that there are occasional instances of flagrant malpractice or negligence, in which patients are entitled to recovery because of the wrongful acts of physicians. In these cases, court action is justified and the patient should be protected. However, in many situations, it is not clear whether or not the doctor may have acted wrongly, and it is for these cases that the Screening Panel is of value. Although the Panel has existed only seven years and though its existence is not known to all lawyers and doctors, we have attempted to publicize its functions in the State Bar News and in our Virginia Medical Monthly. Use of the Panel by patients who feel that they may have cause for legal action is encouraged and we hope will be more generally adopted.

The Joint Medico-Legal Screening Panel

Presented before the American Association of Medical Clinics, Southeast, Fredericksburg, April 5, 1969.

was established by The Medical Society of Virginia and by the Virginia State Bar. Its members consist of representatives of the legal and medical professions who are members of Liaison Committees from the two groups. The purposes of the Panel are twofold: "on the one hand, to prevent where possible the filing in court of actions against physicians and their employees for professional malpractice in situations where the facts do not permit at least a reasonable inference of malpractice; and, on the other hand, to make possible the fair and equitable disposition of such claims against physicians as are, or reasonably may be, well founded." [1] "Both professional groups recognize that the mere filing of a malpractice action in court, however unjustified medically it may be, causes substantial harm to the reputation and practice of the physician concerned. Both groups recognize, at the same time, that persons having legitimate and meritorious grievances against physicians have heretofore often encountered the greatest difficulty in substantiating their claims with expert testimony in court." [1]

Mechanics of operation of the Panel are simple and have been agreed upon by the legal and medical representatives on the Panel. Any attorney may submit a case for consideration of the Panel by addressing a request, in writing, signed by both himself and his client, to the Executive Secretary of The Medical Society of Virginia. This letter request shall contain the following:

1. A brief statement of the facts of the case, showing the persons involved, the dates, and the circumstances, so far as they are known, of the alleged act or acts of malpractice.

2. A statement authorizing the Panel, through its Chairman, to obtain access to all medical and hospital records and information pertaining to the incident and, for the purposes of its consideration of the matter only, waiving his client's privilege as to the contents of those records. Nothing in that statement shall in any way be construed as waiving that privilege for any other purpose or in any other context, in or out of court.

3. An agreement that the deliberations and discussions of the Panel and of any member of the Panel in its deliberation of the case will be confidential within the Panel and privileged as to any other person, and that no Panel member will be asked in any action to testify concerning the deliberations, discussion and internal proceedings of the Panel.

4. A request that the Panel consider the merits of the claim, and render its report to him.

5. A statement that the attorney has read, understands and subscribes to the plan for screening medical malpractice cases and has advised his client thereof and that the client agrees to the submission of the facts pursuant to the plan.

6. A fifty-dollar fee shall accompany each application for a hearing.

7. Written consent to a review by the Panel signed by the physician in question and his attorney, as the case may be, shall accompany the petition in those cases in which the physician consents. In those cases where the physician does not consent, petitioner's attorney must certify that he has contacted the physician, or his attorney, as the case may be, and has been unable to obtain consent.

Cases which the Panel will consider shall include all cases involving any alleged act of professional negligence occurring in Virginia, by a member of the Society, his servants, agents, or employees." [1] Note that cases involving *only* members of The Medical Society of Virginia and his agents or employees will be heard. Also, cases can be heard by the Panel in which the physician and his attorney may decline to participate. We feel that generally it is in the best interests of the physician to participate in the hearing, but in instances where the doctor declines this privilege, after being requested by the claimant's attorney, a unilateral hear-

ing involving only the claimant will be held.

Certain ground rules which are worthy of mention have been established by the Panel.

1. The Panel for voting purposes is composed of equal numbers of lawyers and doctors (usually three or four of each).

2. The Panel will not conduct a hearing where legal action by filing suit has already been initiated unless extenuating circumstances are cited.

3. The hearing will take place within 45 days of receipt of application from the claimant.

4. Questions of interpretation of the law or discussion regarding possible damages are not within the scope of the Panel. The sole function of a hearing is to determine whether or not in light of the facts presented "there is a reasonable probability that the acts complained of constitute professional negligence, and whether there is a reasonable medical probability that the claimant was injured thereby." Thus, if the Panel feels that the facts presented seem to justify jury consideration, the claimant should be supported, while conversely if it does not appear that a suit is justified, the doctor should be supported.

5. Lawyers for both sides have agreed that where the Panel has determined that there is no *reasonable probability* of professional negligence, "the attorney bringing the matter for review shall thereafter refrain from filing any court action based upon it unless personally satisfied that strong and overriding reasons compel such action to be taken in the interest of his client, and that it is not done to harass or gain unfair advantage in negotiation for settlement." [1]

6. The Panel will not hear cases which involve individuals who are not members of The Medical Society of Virginia or which involve hospitals and paramedical groups.

7. The Panel has determined that whenever the decision favors the claimant, it will provide for him in the field of medicine concerned experts who will assist in preparation of the case for trial and who may be called to testify. Such experts, however, are called to give their opinions regarding the case but are not bound to testify for the plaintiff. Heretofore it has been difficult for a claimant to obtain physician-witnesses who have been willing to take the stand to give testimony which might adversely affect the physician-defendant. The Medical Society of Virginia has obligated itself to provide competent expert testimony in the event that the hearing is decided in favor of the plaintiff and results in trial.

"In such circumstance a physician so designated will be fulfilling a public obligation which has been recognized by The Medical Society of Virginia and which has been endorsed by his colleagues. He will be testifying to the facts as they exist in his opinion for the benefit of the Court. The Virginia Statute does not permit a Court witness. Therefore, the operational mechanics require that he be summoned as a witness for the plaintiff. He will be compensated by the plaintiff at his customary fee for such service. He will meet with the attorney, and/or plaintiff, and offer such advice and opinion as they may require in the preparation of their case.

"In such instance, the Society's Liaison Committee to the State Bar selects colleagues who, in their opinion, are competent to testify and will select men who are not immediately involved in the same locality in their practice. Men so selected are expected to cooperate in the plan when their schedules will permit. In such case, it is the intent of the Liaison Committee to select three competent experts who will be contacted and who, with their permission, will have their names submitted to the attorney for the plaintiff. The attorney for the plaintiff will in turn contact one or more of the witnesses thus made available and make his specific arrangements with that witness, or witnesses, for such interview and discussion as may be necessary." [1]

"One of the primary purposes of the

Screening Panel is to prevent malpractice action, but also the existence of the Panel does much to contradict the argument often expressed among lawyers and laymen that medicine is a closed shop and that it is impossible to obtain a reasonable hearing against any physician, inasmuch as no physician would testify against his colleague. The Panel provides a means whereby those plaintiffs, who have grounds for action, can be supplied with an expert who will testify to the fact. This, in itself, has done much to improve the relations between the two professions. It is also felt that this offers an excellent public relations medium, in that the public can be assured that the profession is examining itself closely and critically and that in the event of any criticism, a means does exist whereby a fair hearing can be had and the facts understood. Availability of the Panel is of inestimable value to the honest attorney, seeking to represent fully his client in his effort to obtain an unbiased opinion as to the merit of his client's petition. The unscrupulous attorney would have no use for the Screening Panel, whereas it provides the best possible protection for the defendant physician. If he has not erred, he is offered a better medium than any other available whereby his patient might be led to understand the facts and allay his antipathy. It also gives an opportunity for the airing of the facts and a negotiated settlement, where justified, without the filing of a malpractice action, with its attendant unfavorable publicity to the physician. In that occasional case where the physician feels himself blameless, but the Panel finds otherwise, it gives him a chance to see the position in which he is really to be placed and an opportunity to prevent this through out of Court settlement." [2]

Experience to date with the Joint Medico-Legal Screening Panel is as follows: A total of 27 cases have come before the Panel. Of these, there have been nine decisions in favor of the patient plaintiff and 15 decisions in favor of the doctor defendant, while three cases were settled before the hearing. Interestingly, all the decisions, either pro or con, have been unanimous, with the exception of one case in which the vote was five to one. Although the efforts of the Panel seem definitely worthwhile, it is disturbing that the insurance companies are reluctant to avail themselves of the Panel and generally regard it as an opportunity for the plaintiff's attorney to go fishing for information which can then possibly be used in a trial. Emphasizing this fact, it is astounding that as of December 1968, 134 potential malpractice suits were in various stages of development for the St. Paul Company alone. The Panel members disagree with this position, and we are attempting to get more widespread use of the Panel when suit is threatened. We feel that deliberation before the Panel is nearly always of great value to the physician and his insurance carrier, regardless of the outcome of the hearing. It is our hope that in the future, there will be more Panel hearings and less suits, and that the medical profession thereby will be spared much unfavorable publicity.

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The Federal-Private Sector Partnership in Medicine

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As the federal government develops its medical programs, most of the organizations and individuals concerned with private medicine react with alarm and a feeling of antagonism. Here are suggestions for the private sector and for the federal bureaucracy. These might improve the partnership.

THAT AN ANTAGONISM between the Federal and private sector on matters of medicine, and to a lesser degree on medical education and medical science, continues to exist needs no elaboration. On some issues the conflict is being resolved; the tragedy, however, is that it is not being settled quickly enough and to the satisfaction of all concerned. The consequences of the dissidence unfortunately are heaped upon the public, the very group to which both are morally committed. This Federal-private sector conflict needs critical attention, for in understanding, or at least appreciating the source of the conflict, a resolution may be found.

The antipathy arises from two, all too typical, arguments. The private sector of medicine argues that the government assumes prerogatives that are not in its domain. The Federal retort is that the private sector is not responsive to the needs and wants of society. This paper focuses on (1) the Federal retort, for the response embodies the private sector arguments, and (2) what can be done to reduce the conflict and create a more productive environment.

What should be obvious to even the casual observer of the Federal scene is that politicians keep a sharp ear tuned to public sentiment. That is probably why the cries of "socialized medicine" fall on deaf ears. While the medical profession may sound the alarm, if indeed an alarm needs to be sounded, government officials, elected and appointed, respond to the will of the majority, especially if that majority votes. It is no wonder, then, that no grass roots movement has developed to repeal Titles 18 and 19 and the Social Security Act. On the contrary, if any public movement is gaining momentum it is to strengthen Titles 18 and 19.

Because a majority of the public makes demands does not necessarily justify the demand. A majority could be motivated by selfish goals. In cases where the wisdom of the majority may be blinded by selfish interests, a leadership group must emerge that can convincingly articulate the genuine perils—a leadership group with credibility. For in addition to heeding the will of the majority, political leaders respond to groups that have credentials designating them, by virtue of past performance, as sincerely interested in the commonweal.

With this as a preface, the following observations are made: (1) the attitudes of

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the private sector of medicine, as postulated by its professional national organization, toward most social issues are not in harmony with those held by the majority of society and (2) the private sector of medicine, especially as it is characterized by its professional organization, has lost much of its credibility. If these two observations are valid, then it is no wonder that our political leaders indeed are responding to the needs of society as they interpret them. Consequently, any cry of condemnation by organized medicine that the Federal government is encroaching on the private sector is received—if indeed it is heard at all—with a grain of salt.

What it boils down to is this: If the Federal government is indeed encroaching or assuming prerogatives not in its domain, in a democratic society the public will be heard; if the public is oblivious to inherent dangers, intelligent and reasonable arguments by spokesmen must be presented so rational decisions can be made by individuals in position to effect legislation or develop policy.

The conflict between the private and Federal sector can, however, be reduced. As a first step, the private sector, either through individuals or preferably through county and state societies, must take the initiative at the local level to institute a variety of exciting and innovative programs directed at the delivery of health care. A good example of such a local program relates to health manpower.

Almost everyone is willing to concede that it will be a long time, if ever, before there will be enough physicians. Even if that millenium is reached, physicians will require a cadre of new auxiliaries to assist them in the performance of their duties. The amount of discussion about this is voluminous, much of it coming from sincerely concerned individuals, with a wide variety of private practitioners giving it nodding acknowledgment. Medical schools are alert to this problem also, but often are preoccupied with the education of medical students to do anything about it. Furthermore, many medical school facilities are already strained and an additional burden of the magnitude of developing new types of health workers presently is beyond them.

Here is an area in which either state or county medical societies could assume the initiative. Working together with local medical schools, colleges and junior colleges, a medical society could help design a program which would recruit, provide varied educational experiences in private offices, group clinics, and community hospitals, and ultimately place individuals who have completed the program in a wide variety of employment settings. To accomplish this would call for courage on the part of the profession, for problems of licensure and vested interest of other well-established auxiliary groups would have to be confronted.

A program such as this would call for a commitment of time and energy. Yet, a more worthwhile activity that more dramatically would illustrate to all concerned the profession's deep and sincere interest in working toward a solution to the health manpower shortage, *ipso facto,* improving the quality and quantity of medical care, would be difficult to imagine.

The number of county or state medical societies undertaking such an approach to the health manpower problem is insignificant. Even where it is being initiated, some of the membership criticizes the effort because it is not considered a legitimate professional activity.

Another approach to give the profession greater visibility also includes individuals and county societies, namely, involvement in community health projects such as the neighborhood health centers.

No matter how often it is said that we have the best system of health care, the cold, hard facts patently indicate that the system could be improved. The often cited figures on infant mortality, the needs of the aged, the chronically sick, the mentally retarded,

the severely disabled, and those needing emergency medical care should be incentives for improvement. The evidence that poverty groups bear a greater burden of chronic disease, mental illness, mental retardation, and orthopedic disabilities is a plea for action.

Community projects in the delivery of health care are not the answer to all our problems, but they can provide the opportunity to examine critically the ways to improve the delivery of care. Citing reasons why neighborhood health centers cannot succeed and how they infringe on the private practice of medicine only dilutes precious energies.

Here too, medical societies and their constituent members can work with medical schools and state agencies to make all community health projects partnerships in health. Individual practitioners with their unique experiences can make contributions to such efforts assuring their success.

Another approach is a route not everyone should take and not all those who elect it should view it as a life long career—devoting time in a government position.

More highly qualified private practitioners must seek out positions in the Federal government. The number of agencies in which practitioners can influence medical policy and programs is vast—the Social Security Administration, Childrens Bureau, Office of Economic Opportunity are but a few such agencies. The effect individuals can have in such positions should not be underestimated; the opportunity to exert positive influence is there.

If the decision of the medical profession is to sit back and let someone else do it, then it should be no wonder that the responsibility is assumed by "career bureaucrats" who have no understanding or appreciation of the issues and problems.

Other related suggestions could be cited. If only the suggestions mentioned so far became a reality, two things would occur: (1) Federal programs and policy could be influenced, and (2) the profession would have its credentials restored as a forceful and concerned spokesman for the needs of society, a spokesman whose suggestions and concerns would be heard and acted on.

What of the Federal sector? It is far from blameless and could also take positive action.

As a first step a far more active program needs to be instituted to recruit physicians into Federal policy positions and councils. The government should appoint individuals who as private practicing physicians have a background in the delivery of health care. These should be individuals who can speak with authority and already proven their leadership qualities, not only among their peers, but the public in general. These appointments must be to genuine policy positions and councils, not to obscure positions in obscure bureaus or agencies where individual talent is quickly dissipated and personal frustrations set in. These should not merely be token appointments, gestures to appease vocal groups proclaiming opposition.

The Federal government is now involved in numerous activities and programs related to medical care. Qualified physicians must be identified and encouraged to assume leadership positions in these programs. The profession and society can only benefit from such an arrangement.

A second suggestion calls for creating a mechanism by which professional organizations can consult, advise, and react to pending or operational programs and policies. Under Philip Lee, the Office of the Assistant Secretary for Health and Scientific Affairs of the Department of Health, Education, and Welfare inaugurated such an approach on medical matters with which the Department was concerned. There is absolutely no reason why the Federal government cannot embark on a similar approach in a number of other areas related to health. Committees and representatives of the medical profession could contribute in countless ways to the development of national policy and pro-

grams related to the health needs of society. The Federal sector must learn to realize that the private sector can indeed make contributions, contributions that are not selfishly motivated. The private sector, in turn, must demonstrate that it can make positive contributions; demonstrate it through far greater involvement in community programs related to the health needs of today.

The final suggestion for the Federal government is rather sweeping. It is this: Because an apparent void appears that is not effectively being filled through an existing system does not mean that the Federal government must barge in, with all its resources, to satisfy that void. In the health field, which is so delicately interlaced with complicated and interrelated factors, considerable attention to all components and ultimate outcome must be given to all new programs. More harm has been done through rash and ill-conceived programs than can be imagined. Noble and worthwhile goals can suffer because a program has not been thoroughly developed, if indeed it should be developed at all.

As it develops its programs, the Federal government must give thorough consideration to the means and ends; it must recruit to its councils individuals with interest, knowledge, and concern; it must deliberately consider the consequences of its actions; it must consider alternative solutions.

A number of other suggestions could be made to improve the relationship between the Federal and private sector. If only these suggested steps were taken, a far more productive partnership between the private and Federal sector would develop.

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Highway Accidents

More than 55,300 men, women and children were killed in highway crashes in 1968, according to the annual highway accident data booklet published by The Travelers Insurance Companies. The toll was up from the 53,000 killed a year earlier.

At the same time, automobile accidents were responsible for injuries to some 4,400,000 persons in 1968, an increase of more than 200,000 from the previous year.

The booklet, titled ALCOHOLOCAUST, points to a study by the U.S. Department of Transportation which concludes that "the use of alcohol by drivers and pedestrians leads to some 25,000 deaths and a total of at least 800,000 crashes in the United States each year". It notes, however, that the reader must read between the lines of classifications in the statistical tables: "Speed too fast for conditions", "On wrong side of road", "Reckless driving", "Drove off roadway", "Did not have right of way", to find the evidence of drinking and driving.

"A dead driver can't be asked to heel-and-toe or take a breath or blood test and the injured driver frequently needs swift emergency treatment. Technical examination for alcohol in his blood stream must come later when the aberrant ingredient has been diluted or has disappeared altogether".

According to a statistical table titled "Actions of Drivers Associated with Deaths. . ."; Speed too fast for conditions accounted for more than 40 percent of the deaths; On wrong side of road, 14 percent; "Reckless driving", 14 percent; "Drove off roadway", 12 percent; "Did not have right of way", 13 percent.

The statistics in the booklet were compiled from reports of state motor vehicle departments across the nation.

The Management of Regional Enteritis

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Regional enteritis and its management is discussed and five patients are presented.

WHILE SOME OF US were still in medical school back in 1932 an article titled "Regional Ileitis" was published by Crohn, Ginsburg and Oppenheimer.[1] This paper pointed out that the disease affects the terminal ileum usually in young adults causing thickening of the bowel often with fistula formation and dense scarring of the intestine. Since then many papers have been published which tend to show that the disease is relatively common,[2] that it occurs at any age,[3] and also that it may involve any part of the gastrointestinal tract.[4,5] No one has discovered the cause of the disease though there are many theories and at present some feel that it is an autoimmune condition.[6,7] A precise treatment is still in dispute but most cases eventually come to surgery.[7,8] For this reason we feel that it is timely to bring to your attention this miserable condition and to present five patients and briefly discuss the management of regional enteritis.

Case Reports

Case 1, V. B. The patient, a 62 year old white woman was admitted to the hospital on 8/2/67 with a complaint of nausea and vomiting, abdominal cramps, diarrhea and loss of weight. This patient had had at least 17 previous admissions to various hospitals and had had many operative procedures including a gastroenterostomy for duodenal stenosis, a cholecystectomy, pelvic surgery and kidney surgery. She also had been treated for bronchial asthma and had been institutionalized for mental disturbances on several occasions. In appearance she was an emaciated woman complaining of abdominal pain. A laboratory report showed a mild anemia and low total protein. After several gastrointestinal series and barium enemas the roentgenologist made a diagnosis of lymphoma involving the stomach, duodenum, small bowel and possibly the transverse colon. This patient was operated upon with the above diagnosis. In addition to extensive adhesions involving the omentum, small bowel, liver and stomach she was found to have a swollen, red, terminal ileum. The terminal ileum was resected and proved to be regional ileitis. The immediate postoperative course was good but while still in the hospital she developed intractable diarrhea which responded only to corticosteroids. She was discharged about one month following surgery but returned to the hospital on 2/26/68 with diarrhea and cramps. Again an x-ray diagnosis of lymphoma involving the stomach and small bowel was made. She was treated expectantly but did not respond until she was put on steroids and was discharged three weeks following admission in reasonably good condition.

Case 2, J. Y. The patient, a white woman, 31 years old was admitted on 8/31/66 complaining of abdominal pain and cramps and diarrhea. In 1960 she had had a bypass operation for regional ileitis and in 1963 there was x-ray evidence of the presence of terminal ileitis. Two months before admission she began to have diarrhea and stool studies at that time were negative and re-

examination by x-ray showed inflammatory changes in the small bowel so she was admitted for surgery because of increase in pain.

Past medical history revealed that she had had a T&A and an appendectomy in 1953 and fistula-in-ano in 1959 and the mentioned bypass in 1960. Also, she had had two breast nodules removed. On physical examination the patient was an acutely ill white woman with tenderness in the right upper quadrant and some abdominal distension. She was operated upon on 9/6/66 and the terminal ileum and right colon were removed and an end to end anastomosis between the ileum and the transverse colon was done. This patient has done exceptionally well except that she continues to have diarrhea without a great deal of pain. She had a tubal ligation in May of 1967 with a normal postoperative course and was readmitted on 10/3/67 because of severe pain, cramps, nausea and diarrhea. Reexamination of the intestines by x-ray showed no evidence of ileitis and she was treated with Lomotil and later with Medrol and Azulfidine. She responded well to this treatment but voluntarily discontinued the Medrol and continues to have diarrhea. She is presently hospitalized with a bladder infection but does not show evidence of recurrent ileitis except for the presence of diarrhea.

Case 3, D. C. The patient, a 33 year old white woman was admitted to the hospital on 2/20/65 with a history of having recurrent, progressively severe episodes of low abdominal and pelvic pain which were made worse by prolonged sitting. She had had no nausea, vomiting, or weight loss. At the time of admission, however, she had marked anorexia, nausea and vomiting and abdominal cramps and was quite cachectic.

Past medical history revealed that she had been operated upon for endometriosis and lysis of adhesions and had had drainage of an intra-abdominal abscess. Examination revealed an ill white woman with a distended abdomen and vertical and transverse scars. There was marked tenderness with rebound tenderness. Peristalsis was normal, laboratory examination showed no leukocytosis, normal blood protein, normal blood calcium, and normal blood urea. Stool studies showed no evidence of ova or parasites and serum electrolytes were also reported to be normal. X-rays prior to surgery revealed that a cholecystogram, an intravenous pyelogram and a gastrointestinal series were all negative.

On March 3, 1965, because of continued pain she was explored and numerous adhesions were found and divided. Postoperatively she did not do well and by 3/10 she developed signs of acute intestinal obstruction and was reoperated upon. Numerous adhesions were again found and divided and the small bowel at one point was so thickened and indurated that it was resected and an end to end anastomosis was done. The patient did reasonably well and the pathological report showed regional enteritis of the jejunum in an early stage. A few days after surgery she became quite ill and again showed signs of partial obstruction and was finally treated with Decadron with relief of symptoms and was discharged 55 days after admission and has apparently been symptom free since.

Case 4, E. K. This case is interesting in that we have been able to follow her over a long period of years. At the time of admission for regional ileitis which was on 8/8/63 she was 46 years old. She was admitted with a history of acute periumbilical pain followed by profuse vomiting and a fainting spell. She later ate lunch and had a normal stool but in the late afternoon the pain became very severe and the nausea and vomiting recurred and she was admitted to the hospital.

Past medical history revealed that this patient had been treated for pulmonary tuberculosis which had apparently been arrested. When she was 35 years old she had a right salpingo-oophorectomy for a hemorrhagic cyst of the right ovary and an

incidental appendectomy showed oxyuris vermicularis infestation of the appendix. At 45, about one year prior to this operation, she had an acute intestinal obstruction which was due to adhesions. At the time of surgery the terminal ileum was noted to be indurated, edematous and a dusky red in color but since this was between the two adhesive bands it was not resected. At the time of the present admission physical examination showed an acutely ill white woman with normal temperature. The abdomen was distended and quite tender in the right lower quadrant, peristalsis was hyperactive. The only laboratory work was a blood count which showed leukocytosis. A flat plate of the abdomen revealed signs of early obstruction and she was operated upon with a diagnosis of obstruction due to adhesions but on examination of the ileum there was marked edema and a brawny induration of the terminal ileum and the terminal ileum and cecum were resected. The diagnosis of regional ileitis was confirmed. The patient had a normal convalescence but continues to be troubled by diarrhea which responds fairly well to Lomotil.

Case 5, K. M. Except for the fact that this boy is colored it probably is the most typical case of regional ileitis which we are reporting today. He was admitted to the hospital on 7/4/65 having been seen in the office with a history of having had stomach cramps for about one year, and 24 hours before being seen he began to have periumbilical pain, anorexia and later vomiting. The pain became more marked and he was unable to straighten up completely because of the pain.

Laboratory work showed only leukocytosis and examination revealed an acutely ill colored boy of 16 with temperature of 100 degrees. He was very tender around the umbilicus and in the right lower quadrant with rigidity and rebound tenderness. With a natural diagnosis of acute appendicitis, he was operated upon and the appendix appeared to be inflamed and cloudy fluid was present in the abdomen. The appendix was removed but further exploration revealed a thick indurated terminal ileum with a mass in the ileum extending into the mesentery at about 10 centimeters from the ileocecal valve. This was thought to be an acutely inflamed diverticulum of the ileum and the ileum at the ileocecal valve appeared to be normal for about two centimeters so the terminal ileum was resected and an end to end anastomosis was done. The postoperative course was stormy with signs of obstruction and infection which responded to antibiotics and he was discharged 18 days after surgery in good condition, the final diagnosis being regional ileitis. This patient had a gastrointestinal series done several months following surgery and there was no evidence of active disease of the ileum or colon and he has done so well that despite my letters to the contrary he has been accepted for induction into the armed forces.

It is apparent from these cases that regional enteritis is difficult in its diagnosis as four out of five cases were not diagnosed until operated upon. There are definitely two forms of the disease. The first is acute and fulminating and is practically always misdiagnosed as acute appendicitis. In this type of regional enteritis it is our feeling that an adequate resection should be done at the time the patient is operated upon unless advanced disease with abscess formation precludes this. If such is the case the incision may be closed and the patient treated medically until such time as surgery can be safely performed. In the second form of the disease which is usually diagnosable by x-ray examination it is the feeling of many authors that medical treatment should be attempted. However, these same authors admit that 80% of the cases eventually require surgery.[6,7] Therefore, it is our feeling that the sooner the surgery is undertaken the better off the patient will be and at the time of surgery an adequate resection with a margin of normal tissue on each side of the resected area should be done.

Summary

Regional enteritis is a disease of unknown etiology occurring at any age, and which may involve any portion of the gastrointestinal tract. The management of this disease is fraught with difficulties but adequate surgical removal of the diseased tissue seems to give the best results.

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Population and Labor Force to Continue to Grow

Since the end of World War II both the total population and the labor force of the United States, including the Armed Forces overseas, have shown substantial growth.

The population at mid-1968 was estimated to be 201,170,000 and the labor force 84,550,000. The population is expected to reach about 205,500,000 by July 1970 and exceed 235 million in 1980. Population growth in recent years reflects the high level of births during the 1950's and early 1960's. As increasing numbers of these children reach working age in the years ahead, the size of the labor force will grow rapidly.

The forthcoming rise in the work force at age 16 and over is expected to be somewhat more rapid than the growth in the total population. Between 1967 and 1975, the labor force is anticipated to increase by 14.6 percent compared with a 13.9 percent rise in the population. This pattern is expected to continue; in 1980 the number of people employed or seeking work may approach 101 million, or 3 out of every 5 persons at ages 16 and over. Population growth is likely to contribute all but 7.5 percent in this future expansion of the labor force, with increased participation rates for women accounting for the remainder.

Men and women at ages 20-24 and 25-34 will constitute the fastest growing segment of the work force. The number of workers aged 35-44 will decline until about 1975, and increase thereafter. For those aged 45-54 the reverse will be true. Nevertheless, each age group is expected to be somewhat more numerous in 1980 than in 1967. At the older ages the increases during this period will be even more substantial, namely, a quarter at ages 55-64, and a tenth at ages 65 and over.

The fastest growing segments of the labor force are expected to be the health industry, education and government. The growth of the labor force is expected to be greater for women than for men; the anticipated increases are about 27 and 23 percent, respectively.

Differential rates of increase in the white and nonwhite populations will also be reflected in the racial composition of the future labor force. Between 1967 and 1980 the number of nonwhite workers is expected to grow by about 37 percent, as compared with a rise of only 23 percent for whites.

—Statistical Bulletin of Metropolitan Life Insurance Company

Drink, Drive and Die

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It is quite obvious that an intoxicated individual behind the wheel of an automobile is a potential killer.

THE CAUSES OF AUTOMOBILE ACCIDENTS and fatalities can be broadly related to the road, the automobile and the road user. In 1967, 53,000 persons died on the road in the United States and in Virginia alone 1,223 persons lost their lives on the road. Of these 1,223 fatalities, 566 were drivers. The driving skill may be impaired by abnormal physiological states like the lack of sleep, fatigue, irresponsible behavior and emotional disturbances and also by the pathological conditions and the use of alcohol and drugs. Perhaps the most widely discussed factor is alcohol. The Department of State Police in Richmond produces every year an excellent report on Virginia Traffic Crash Facts. A detailed study of the role of alcohol in the causation of accidents in Virginia has not been recently done. This aspect of the problem deserves a special discussion as alcohol appears to be a major killer on the road. The specific purpose of this paper, therefore, is to present an analysis of randomly selected 200 cases of drinking and driving which proved fatal in 1967 in Virginia and to suggest amendments in the legislation.

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Material and Analysis

The material for this study was retrieved from the case files maintained in the Office of the Chief Medical Examiner in Richmond. Only the accidents in which the drivers of the vehicles were killed were selected. In all 200 such cases were included in the study.

Of the 200 drivers killed, 182 were males and 18 females.

In the sample studied, 29 drivers were under the age of 20 years, 65 were aged between 20 and 29 years, 34 were between 30 and 39 years of age, 32 between 40 and 49 years and 40 were 50 or above the age of 50 years.

In this series, analysis of postmortem specimens of blood revealed that 102 out of the 200 cases (51 per cent) were positive for alcohol, in 67 cases the alcohol result was negative and in 31 cases alcohol estimations were not done. It must be pointed out that the sixty-seven cases with negative alcohol also included drivers of vehicles killed in accidents caused through no fault of theirs and some of them were involved in accidents with other vehicles, the drivers of which had consumed alcohol but did not die. The reason for not doing alcohol estimations in 31 cases was the delay of more than 24 hours between the accident and the death. It can only be presumed that some percentage of these 31 drivers had consumed alcohol prior to the accident.

It is a generally accepted fact, that a blood alcohol concentration of 50 mg. per 100 ml.

will definitely impair the driving ability of some persons, and as the alcohol concentration increases, a progressively greater percentage of such persons are so affected, until at a blood alcohol concentration of 100 mg. per 100 ml., all persons are definitely impaired. In view of this fact, it was important to study the distribution of the present series of 102 cases with positive blood alcohol results on the basis of blood alcohol concentration. In six cases, the blood alcohol concentration was less than 49 mg. per 100 ml., in 32 cases it was between 50 mg. per 100 ml. to 149 mg. per 100 ml. and in 64 cases it was 150 mg. per 100 ml. and above. In 19 of these 64 cases the concentration was above 250 mg. per 100 ml. In none of the cases the blood alcohol concentration was less than 30 mg. per 100 ml.

The following table summarizes the incidence and extent of drinking in different age groups:

Age in Years	*Total Cases*	*Positive Alcohol*	*Negative Alcohol or Alcohol Estimation Not Done*	*Alcohol Conc. 150 Mg. Per 100 Ml. or Over*
Under 20	29	16	13	2
20-29	65	39	26	25
30-39	34	20	14	19
40-49	32	17	15	10
50 and Over	40	10	30	8
All Ages	200	102	98	64

Of the 18 female drivers killed, three (aged 31, 36, 43) had positive blood alcohol and in all three the blood alcohol concentrations were above 150 mg. per 100 ml.

Discussion

In August 1968, the Secretary of Transportation submitted to the Congress a report on Alcohol and Highway Safety which points out that the use of alcohol by drivers and pedestrians leads to some 25,000 deaths and a total of at least 800,000 crashes in the United States each year. It also indicates that alcohol has been found to be the largest single factor leading to fatal crashes and that one to four per cent of the drivers on the road who have a very high concentration of alcohol in their blood are accounting for about 50 to 55 per cent of all single-vehicle crashes in which drivers are fatally injured. These observations regarding the role of alcohol are amply confirmed by the Virginia statistics of 1967. More than half the drivers killed met their death because of alcohol. Thus, alcohol is a leading killer on the road.

It has been shown that a driver with a blood alcohol concentration of 60 mg. per 100 ml. is twice as likely to cause an accident as when he is sober and with a concentration of 100 mg. per 100 ml. he is six to seven times more likely and with 150 mg. per 100 ml. concentration he is 25 times more likely to cause an accident. In our analysis of Virginia cases, over 63% of the drinking drivers that were killed had the alcohol concentration of over 150 mg. per 100 ml.

Some of the highway fatalities can be prevented by better designing of automobiles and highways. But, in our opinion, a drive toward elimination of the drunken drivers from the highways is the most important step. To attain this, the introduction of stricter legislation should be the first order of business. Perhaps the most rewarding results would be obtained with the enforcement of breath tests. The legislation should provide that a police officer may request a driver to give a specimen of breath for a breath test if he has reasonable cause to suspect him of driving under the influence of alcohol, if the driver has committed a moving traffic offence or if the driver has been involved in an accident. If the breath test indicates the alcohol level below 50 mg.

per 100 ml., the driver may be allowed to go but if it is above this level, he should be arrested and a blood alcohol test carried out. Refusal to provide a specimen of breath should carry severe penalties. A comparable legislation has been proved effective in England where a 22% reduction in highway deaths was achieved in the very first five months of its introduction.

It is quite obvious that an intoxicated individual behind the wheel is a potential killer. The general public is aware of the dangers of drinking and driving but perhaps it is not aware of the extent of loss of property and life alcohol causes. Special efforts should be directed at public education stressing the magnitude of damage as revealed in the national and the state figures. The chances of dying while driving under the influence of alcohol are so great that the preventive message we would like to extend to the public is—drink, drive and die.

Maternal Mortality

The continuing decline in maternal mortality over the past 35 years is one of the important achievements in medicine and public health during this century. It is particularly noteworthy that maternal mortality has decreased while the number of births has been at a high level. There were nearly 13,000 maternal deaths in the United States in 1933, with births at the two million mark, or a maternal mortality rate of 619.1 per 100,000 live births. In 1967 there were 1,020 maternal deaths, while births for the year totaled over three and a half million.

Maternal mortality rates have been recorded in the United States since 1915. There was little change in such death rates until the late 1920's, when a slight drop occurred; but a sharp downtrend became apparent after 1936, following more pointed efforts by the medical and public health authorities to make childbearing safer.

During the two decades following the close of World War II, maternal mortality in the United States dropped by 85 percent. The reduction was much the same among whites and nonwhites—88 and 82 percent, respectively. Nevertheless, a great disparity remains in the levels of the death rates in childbirth by race, demonstrated by the fact that nonwhite women have recently experienced maternal mortality about 4 times as high as that among white women.

The decline in maternal mortality occurred at all ages of the childbearing period. The lowest death rates were recorded among women under 20. The greatly reduced hazard of childbirth in the teens represents real progress, inasmuch as in the past mothers at these ages had been subject to distinctly higher death rates. Among mothers at ages 40-44, an age group exposed to greater risk in childbirth, there was likewise a marked decrease in death rates. Mortality in childbirth advanced steadily with age among both whites and nonwhites.

If we compare the maternal mortality rate of the Western European countries combined—with that of the United States—the rate of 33.6 per 100,000 live births in the United States in 1963-65 is markedly lower than the 51.7 per 100,000 for Western Europe. The death rate in childbirth declined by about 50 percent in Western Europe over this ten-year period, as compared with a 37 percent decrease for the United States.

The maternal mortality rate of 22.4 per 100,000 live births among whites in the United States in 1963-65 was bettered only slightly in Sweden, Norway, and Denmark; however, 21 of the states reported lower death rates in childbirth during 1963-65 than did these Scandinavian countries.

—*Statistical Bulletin, Metropolitan Life Insurance Company.*

Renin-Angiotensin-Aldosterone System in Hypertension

The Clinical Usefulness of Measuring Components of This System

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The physiology of these substances is reviewed and the clinical importance of determining their concentration is discussed.

1. Control of Renin Secretion

RENIN is an enzyme that enters the circulation through the venous and lymphatic drainage of the kidney. This enzyme splits off the ten amino acid compound angiotensin I from the α_2 globulin, angiotensinogen. This protein is produced by the liver. Angiotensinogen concentration strongly influences the rate of reaction with renin to form angiotensin I;[1] liver disease may markedly decrease its concentration,[2] estrogens and pregnancy may markedly increase it.[1,3] Angiotensin I is converted to angiotensin II by having two amino acids split off by a converting enzyme located in the pulmonary circulation. Angiotensin II primarily controls aldosterone secretion rate, as well as being the most powerful known vasoconstrictor.

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There are many clinical situations in which renin is released from the juxtaglomerular apparatus in the kidney. Low sodium diet and diuretics are strong stimuli. The clinical edematous states are associated with a large increase in renin secretion during periods of fluid accumulation. In advanced essential and renovascular hypertension, the plasma renin activity may be greatly increased.[4,5] The sympathetic nervous system exerts a strong influence on renin release; sympathectomy and ganglionic blockade blunt the renin response to known strong stimuli. How these varied stimuli are mediated to release renin from the juxtaglomerular apparatus are unknown. The two most supported and discussed mechanisms are (1) a change in mean blood pressure in the afferent arteriole containing the juxtaglomerular apparatus,[6] and (2) a change in the sodium load presented to the macula densa in the distal convoluted tubule,[7] the macula densa being part of the juxtaglomerular apparatus. It appears unlikely that either of these mechanisms can be the mediator for all stimuli. The mechanism of release is yet to be fully explained.

Methods for Measuring Components of the System

Renin: There are many methods for measuring the amount of renin in the peripheral plasma. All of the methods directly or indirectly measure the amount of

angiotensin II formed after a period of incubation. All of the methods use some procedure to protect the angiotensin II formed from being destroyed by angiotensinases during the incubation period. This is accomplished by adding DFP, removing calcium from the plasma with EDTA, or absorbing angiotensin II onto a Dowex resin. After a period of incubation, the angiotensin II produced may be measured by bioassay using a rat, aortic strip or with radioimmunoassay methods.

Aldosterone: Methods for measuring the aldosterone secretion and excretion rates are now available commercially. All methods used require the use of isotopes. The excretion rate can be determined from a urine sample alone; secretion rate requires the injection of isotopically labeled aldosterone into the circulation followed by collection of urine. The excretion rate is usually about 10% of the secretion rate and in most instances parallels the secretion rate and will suffice as a clinical test.

Angiotensin II: The radioimmunoassay methods for measuring angiotensin II in the plasma are very specific and practical. This method of assessing activity of the renin-angiotensin-aldosterone system will probably become the most widely used method for screening large numbers of patients.

II. Renin-Angiotensin-Aldosterone System in Hypertension

Benign essential (primary) hypertension: The renin-angiotensin-aldosterone system is normal[8] in most patients and responds normally to salt deprivation, diuretics, and the upright position. About 10% of these patients will have a low plasma renin concentration. In contrast to patients with primary aldosteronism, these patients with low plasma renin will have decreased aldosterone secretion and excretion rates.

Advanced and malignant hypertension: In almost all patients with malignant hypertension, the renin-angiotensin-aldosterone system is markedly stimulated.[8] Medical treatment with change of the malignant phase to a more benign state of hypertension will decrease the hormones to normal.[9] If renal insufficiency appears in benign essential hypertension, renin secretion will often become elevated.

Renovascular hypertension: The peripheral renin concentration in patients with partial occlusion of the renal artery is related to the severity of their hypertension. In patients with mild hypertension the renin concentration may be normal. The renin activity in the renal vein blood of the kidney with renal artery stenosis is usually two or more times greater than the opposite kidney. The renin activity in the renal vein of the opposite unobstructed kidney is usually the same as in the peripheral circulation. The renin found in the venous blood from the unobstructed kidney has, for the most part, been recirculated through the kidney. This is possible because of the long half life of renin, being 30 to 45 minutes. Renin release usually is completely suppressed in the kidney without renal artery stenosis. The same relationship holds in accelerated hypertension due to renal artery occlusion; the primary difference being a marked elevation in the peripheral renin concentration. The aldosterone secretion rate is also markedly increased and potassium depletion may be a prominent feature of severe hypertension.

Primary aldosteronism: The percentage of patients with hypertension due to primary aldosteronism is still unsettled but is probably rare. The classical finding is a suppressed plasma renin concentration, even on a low salt diet, and an increased secretion and excretion rate of aldosterone.[10] It is important to note the potassium concentration in the plasma. In patients with primary aldosteronism and severe potassium depletion, the aldosterone secretion and excretion rates may be normal. When the potassium

depletion becomes corrected, the aldosterone secretion rate again becomes elevated.

Clinical Usefulness of Measuring the Components of the Renin-Angiotensin-Aldosterone System

Not all patients with hypertension require actual measurement of the components of this system, but all patients with hypertension should be screened for the endocrine effects of this system. Patients with hypertension should be checked for a Trousseau sign and the serum electrolytes should be obtained after the patient has been on a high salt diet for two weeks. If signs of potassium deficiency after a high salt intake are obtained, then the patient should be evaluated for primary aldosteronism. The plasma renin activity should be evaluated in the recumbent and upright position on a normal and low salt diet and the urinary excretion of aldosterone measured. Urine for aldosterone should be collected after potassium repletion and while on a normal salt intake. Patients with essential hypertension who have a low plasma renin will also have low aldosterone secretion. If all tests are equivocal, a trial of spironolactone may be helpful. This aldosterone antagonist will reverse all the electrolyte abnormalities of primary aldosteronism, and in most instances the blood pressure will become normal or decrease.

The plasma renin activity is useful in selecting patients with renal artery lesions for surgery. Many patients with renal artery stenosis and hypertension will have elevated peripheral vein renin activity, but this is not of great help because patients with severe essential hypertension will also have increased renin activity. In most instances it is essential to measure the renal vein and peripheral vein plasma renin activity prior to making a sound decision. Complete cure of hypertension with renal artery surgery has been accomplished in patients with normal peripheral vein renin concentration. Rarely, the renal vein renin concentration may be the same in both renal veins.

In summary, direct measurement of one component of the renin-angiotensin-aldosterone system can be of great benefit in evaluating hypertensive patients for primary aldosteronism or for surgery if a renal artery lesion is present.

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Nursing Shortage and Education

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There is no single simple explanation for the present shortage of nurses but the suggestions that follow could help relieve the situation.

SINCE 1854, when Florence Nightingale started her services in the Crimean War, to the present time the nurse has been the hand-maiden of the doctor. Until recent years she was trained by him and respectfully carried out his orders and did his bidding without question. She prepared his way, cleaned up the debris that his professional duties created, followed him through the hospital door, arose when he entered the room and kept his confidence at times under trying circumstances. Today she has kept many of the amenities of their relationship, but her profession has grown up, and now she occupies an increasing stature of a Junior colleague as a member of the health team. This has been brought about by many related factors. Among these is the fact that doctors no longer assume the role as the educator of the nurse. He has been supplanted by the nurse educator. This has come about by his own default in accepting his responsibility in the education of the nurse on the one hand, and on the emersion of the professional full time nurse educator on the other. This has resulted in a gradual drifting away of the nurse and her philosophy, from her role as the helpmate of the doctor, to the role of an adjunct professional in her own right with all of the perquisites of individual professional status. This in many ways has been a welcome development, but in other ways it has drawn her apart from the role for which the physician had hoped for her to follow. Through the American Nursing Association and the National League of Nursing, its educational counterpart, the nurse of today has asserted herself as capable of building and steering her own ship in the direction not necessarily in conformity with the medical professional concept but according to the concept of her own leadership.

Because of this change of status and direction, and because many of the professional duties once accomplished by the doctor are now done by her, she has, by necessity, been forced to acquire increased knowledge in many technical fields other than bedside nursing. However, she must, of necessity and by training, know how to deal with the sick patient at the bedside.

The population explosion, on the one hand and the increased demand by the public on the other, have accounted for what is now termed a national crisis. Interestingly enough in 1957, on a population basis we had one working nurse for every 493 people in the State of Virginia, while in 1967 we had one working nurse for every 348 people —a slight increase per population.

Interestingly enough, the same apparent increase in nurse supply per hospital bed has also occurred. The number of general hospital beds in Virginia has increased from 11,436 to 15,534 from 1957 to 1967, about a 36% increase. The number of working

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registered nurses has increased from 7,500 to 13,191, or about 50% in this time. The number of licensed nursing home beds have increased from 3,853 in 1957 to 7,197 in 1967, an increase of almost 100%. The number of working practical nurses has increased from 2,339 in 1959, the first year this figure was available, to 5,314 in 1967, slightly over 50%. To summarize, we had one working nurse, either registered or licensed practical, for every two beds combined general hospital and licensed nursing home figures in 1957 and by 1967 we had one nurse for every 1.65 beds in the state.

Thus, per population units and per available general hospital or licensed nursing home beds, we actually have more nurses in 1967 than we did in 1957. However, this is only part of the picture. This does not take into account our vast state mental institutions or our large government hospital facilities. These units do not train nurses but require large numbers and frequently set salary scales for them. Thus the private and community hospitals are being called on to carry the load of government operations so far as training is concerned.

Industrial nursing and public health nursing also draw heavily on the nurse supply. Many nurses are also used in doctors' offices. Therefore, the shortage of nurses is not only apparent but real when the sick patient wants a nurse at her bedside.

Of the 1,319,000 graduating from high school in the country at large in 1965-66, there were 38,904 admissions to Diploma Schools, 8,638 to Associate Degree programs and only 13,159 to the four year baccalaureate programs. The total admissions were 4.6% of all female high school graduates in the country. This compares with 7% entering nursing schools in 1950, a very unfavorable decline. In the opinion of most hospital administrators, it is the constant disparagement and down-grading of the hospital diploma schools, which have turned out 75% of the nurses in the country, that has been detrimental to the badly needed increase of nurses.

This disparagement comes from the top echelons of the American Nursing Association of the National League for Nursing, both at the national, and I regret to say, at our State level. It also comes from our own high school counselors. Obviously more young people than formerly want a college education, but many more perhaps are capable of becoming good nurses without aspiring to a college degree. These are being lost to the nursing profession, at least in part, because of the disparaging attitude of the many who should know better for the common good.

We of the medical profession applaud the upgrading of the nursing educational program, but since the number of graduates of Diploma Schools have actually declined from 502 in 1957 to 452, and the associate degree increased from 20 to 26 in ten years, and the number of baccalaureate degrees from 71 to 155, the total number of nurses graduating from all three has increased from 593 to 633, a mere 40 more nurses in ten years. If it were not for the nurses graduated from our practical nursing training programs, which have increased from 179 to 657, we would be in bad shape. I think you will agree that the total picture has not been one of upgrading for the general public, but a substitution of the practical nurse training program for the strengthening of the diploma nurse program. Our point is that we need all classifications of nurses, but at this crucial time we should not demean the program that has furnished the public with the great majority of its best nurses. It would, therefore, seem reasonable that we do everything in the State of Virginia that we can possibly do to undergird the diploma program. This must be done at the educational level by educators. There is no reason why the high school graduate who fulfills her training in a diploma school should not be given college credit toward a baccalaureate degree in nursing

if she chose. At present she is given little or no credit and must repeat the whole nursing course in the baccalaureate program, even though she has received what may have been superior bedside nursing training in her hospital based program. It seems to me short sighted to relegate the diploma program to the status of a correspondence course when its enroller attempts to climb the college ladder. Obviously, in some hospital programs there are some deficiencies, but these can and should be corrected. But, let us not countenance throwing out the baby with the bath water. The baby is too valuable, at least nurse babies are.

Furthermore, many in the diploma program will not want to go on with a college degree. Nonetheless, she will make a fine nurse and in many areas serve better than the degree nurse.

It is estimated that there is a shortage of 300,000 registered nurses in the country. The Senate has before it a bill which would permit grants to nursing schools accredited by the National League of Nursing. The House has another bill before it which would permit grants to nursing schools approved by State authorities. The latter would seem to me more realistic, as it would support schools which would turn out more registered nurses. This is not the time to quibble about idealistic standards, particularly in Virginia, for our State keeps a sharp eye on standards through the office of Miss Mabel Montgomery, who has done such an outstanding job in raising all standards in the four categories of nurse education. I hope you will all write your local congressman to favor the House bill.

In preparation for this Position paper I have written to the president of each of the component societies of The Medical Society of Virginia and have received a significant number of replies from all sections of our fair State. Here are some of the replies:

Dr. John A. Martin of Roanoke Academy of Medicine: "The shortage is in part due to the graduate nurse doing other things beside taking care of the patient in bed. She does this sometimes by choice and sometimes by directive of her organizations. Expansion of the Practical Nurse Corps possibly uprating their curriculum to a higher level and emphasizing in their training that they are primarily being trained to do bedside nursing would be one way to help with this problem. The emphasis on getting additional scholastic work with a degree for the graduate nurses has removed many girls from the practical application of nursing. This is the gap which I think could be filled by expansion of the Practical Nurse Programs."

Dr. G. B. Setzler, president of Lee County Medical Society, wrote, "We believe that our nursing classes should be enlarged if at all possible along with an accelerated program for a period of time. Another added facility might be in the early familiarizing of high school girls in the field of nursing so that they may begin planning toward this goal rather than upon entrance into college. Since there is indication that community colleges will be in existence, we feel if they could be in connection with the local hospitals, then maybe some of our married women could commute back and forth thus allowing a greater number for enrollment. Also, to raise the age limit for beginner nurses might be advantageous."

Dr. Robert E. Byrne, president of Arlington County Medical Society, writes, "I think now, as I thought many years ago, that nurses are grossly under paid. When one compares the training, skills and responsibilities with others who work by the hour in other fields it's surprising to me that as many are available as there are. In our area, the greatest hospital shortage occurs in the night shifts. At Arlington Hospital these nurses get a total of $2.50 more for the eight hour shift. Also, there is a problem with the part-time nurses, i.e., those with a family or other obligations. These nurses are not entitled to sick time or vacation time

nor do they receive time and a half for overtime."

Dr. W. P. Frazer, president of Loudoun County Medical Society, writes, "In our respective area a periodic evaluation of the salary scale is made and adjustments are made concurrent with the cost of living. In our local hospital, we have been guided in salary evaluations by the *Virginia Nurses' Association Recommended Employment Standards,* and feel that their recommendations are valid and realistic."

Dr. William C. Humphries, president of the Northern Virginia Medical Society, writes, "A second very important factor is the poor pay which our nurses receive. Almost any little high school graduate can go to nearby Washington and get a civil service job which pays far more than our hospital can pay so that the girls who do go into nursing go for the love of nursing and not with any thought of financial remuneration as their primary consideration. No doubt it is true that all of us who stay in medicine are dedicated to it and that type of person will stay in medicine no matter what the drawbacks are, but if we have someone on the borderline of staying in medicine or not, I am sure that the poor financial rewards which the average nurse gains could hardly be called attractive. In short, I believe that nurses' salaries should be made on a par with other employees who do similar work and requiring approximately the same type of mental acuity."

Dr. Andres G. Oliver, president of the Mid-Tidewater Medical Society, writes, "More indoctrination in the career and opportunities for juniors and seniors in high school is desirable. Formation of Future Nurse Associations among these groups should be encouraged. Improvement of the image of the male nurse is needed. This has been successful in the Armed Forces with excellent results. Perhaps their title of Male Nurse should be changed to inject more masculinity in their title. Enhancing the training program for nurses aides that they can relieve registered nurses of a greater number of time consuming chores. The value of the medical technician in the Armed Forces proved the value of this type of personnel in the operation of out-patient and in-patient ward care."

Dr. James B. Hutt, Jr., of Warrenton, writes, "I think the basic problem is that nurses are female and hence their profession is secondary to their marriage and family. Efforts to improve the supply of nurses should be channeled in the following directions: 1—Encourage more high school graduates to enter nursing by offering scholarships in return for working in specified localities for some specified time. 2—Encourage graduate nurses to return to their profession by offering refresher courses and good salaries. 3—Establish a new type of nursing help that might be called hospital technician and would have real male appeal by emphasizing the ever-growing technical aspects of medical care. The bed-side nursing would be de-emphasized and shifted to the L.P.N. The hospital technician should be well-trained and properly recognized by an appropriate diploma or degree and, of course, should be licensed. Incidentally, there must be quite a few well trained service personnel who would fit into and be interested in this new field who otherwise are drifting away from medical care and related occupations.

"It seems to me that item #3 above is really the most important aspect of the whole problem. Without some such change there will always be a nursing shortage. I am opposed to turning out another category of nurse that lies between the L.P.N. and R.N. I think the end result will merely be a downgrading of the training level of nurses without any added incentive for more people to enter this field."

Dr. Ernest B. Carpenter, president of the Richmond Academy of Medicine, writes, "It is the consensus among almost all of the doctors with whom I have discussed this matter that the biggest problem in

nursing education appears to be that the larger nursing schools are placing too much emphasis on a highly academic nursing education and too little on the care of the patients. In brief, the larger nursing schools are turning out too many chiefs and what we need are more Indians! The smaller schools of nursing, it is felt, are doing an excellent job, but they do not graduate enough students to take care of the increasing demands. Undoubtedly the solution lies in training para-nursing personnel as I believe the situation will continue to worsen rather than improve."

Dr. Jess P. Miller, president, Hampton Medical Society, writes, "Another factor which should be considered is the overall quality of nursing care. In an effort to offset the shortage of R.N.'s there has been a marked increase in the training of L.P.N.'s. Unfortunately, their training is not adequate for responsible nursing chores and in our area they often seem to end up with essentially as much responsibility as the R.N. This is particularly true at night duty, as it seems the R.N.'s are able to use their short supply as a bargaining point to avoid night duty. In theory it is fine for L.P.N.'s to do less responsible chores and assist R.N.'s, but all too often the L.P.N. who is not adequate to the job is given the responsibilities of an R.N. As an internist, I find the worst problems center around observations of the patient. We depend upon intelligent observation of the night nurse to inform us of the significant changes in the patient's condition. We have found that substantial numbers of R.N.'s cannot make good judgments in this regard and that virtually no L.P.N.'s are qualified to distinguish changes in the patient's general condition. Indeed, many times we have found the simple tasks of acurately collecting vital signs are beyond the capabilities of the personnel in charge."

Dr. C. J. Robbins, III, president of the Fredericksburg Medical Society, writes, "I think especially important is Dr. Cimmino's comment that too many collegiate level trained nurses are going into administrative work and not bedside work as we see in our profession, people going into research and not patient service in small communities. How we can reverse this trend is up to us to control and hopefully it can be done before it is too late."

Dr. C. Barrie Cook of the Fairfax Hospital, Falls Church, writes, "The baccalaureate education program is too expensive for many people that are interested in nursing and I myself am not too sure that all nurses need to have this type of training. Graduates of diploma programs or an A.D. program can function adequately as a staff nurse. This program is cheaper and quite sound. It is also conceivable that after some years work and in training programs, that they may well become supervisors even though this is not a popular thought at this time."

With the above as background, may I briefly present the position of The Medical Society of Virginia regarding current nurse shortage and what remedies and educational changes we deem necessary to correct it.

1. The shortage of nurses is not only due to increases in population and number of beds but also to increased use of nurses to perform many technical tasks formerly done by doctors, and to widely expanded use of nurses in industry and public health. It is part of the overall shortage occurring throughout all the professional fields. The Great Society has not only overheated the economy but also promised more medical care than any society can deliver. The public has been politically urged to demand more than it really needs.
2. Salaries of nurses commensurate with their training and responsibilities have not kept pace with other occupations of young women such as teachers, secretaries, and computer mathematicians.

3. High school counselors and others have steered away likely candidates for nursing and down-graded one category of nursing, the diploma program, which has given us 75% of our present nurse force.
4. The educational hierarchy has not helped the situation by emphasizing the increased standard frequently at the expense of practical ways of increasing the supply of good nurses.

We, therefore, respectfully propose the following measures which The Medical Society of Virginia believes would help solve the current shortage of nurses:

1. Request public funds to strengthen the diploma programs by direct financial support of hospital based schools, either by themselves or in connection with college programs in their vicinity.
2. Request the department of higher education to assist the diploma schools to qualify for college credit so that three years of sound nursing training is not lost, should the graduate of these schools desire to improve their educational status by completing the baccalaureate degree program.
3. Encourage the adoption of the Virginia Nurses Association's recommended employment standards.
4. Continue to support the Baccalaureate Degree programs so that the supply of teachers for the training of nurses is adequate and the L.P.N. and associate degree programs for more bedside nursing.
5. Encourage the members of our own profession to take a more active part in teaching nurses.
6. Devise an educational program to utilize the discharged corpsman to be trained as a nursing technician with commensurate salary.
7. Explore other avenues of training for other para-medical personnel including the training of orderlies together with an adequate wage for these men.
8. Reconvene the Governor's Commission on Nursing in five years to reassess the nursing situation in 1973.

I wish to thank the Governor's Commission for the painstaking efforts in behalf of nursing and nursing education and for the opportunity to present the official position of The Medical Society of Virginia.

1000 West Grace Street
Richmond, Virginia 23220

Let's Reminisce!

Mr. A. H. Robins, of Richmond, Va.,

Changes his advertisement this month to one of the "Special Card-Board Spaces" between pages 52 and 53, after reading matter. During the year, he will build and move his store to the northeast corner of Marshall and Second streets. But where he now is (523 N. Second street), he has steam atomizers at $2 each; family syringes, with hard rubber fittings, at 50 cents each; and numerous other such articles, which will make it to the interest of purchasers to call on him. Orders by mail are as promptly and faithfully attended to as if the party were present to select for himself. (Virginia Medical Monthly, July 1890)

Clinicopathological Conference . . . .

Addison's Disease, Fever, Hepatosplenomegaly, and Pleuropericardial Effusions

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Clinical History

This 37 year old white housewife was admitted to this hospital for the first time on 6/12/68 with a chief complaint of "tightness in my chest".

The patient was hospitalized in Hampton, Virginia, in April, 1968, after a three month history of vague headache, progressive weakness, malaise, nausea, chilliness, weight loss, daily low grade fever, and syncopal attacks associated with diplopia and blurred vision. Studies there revealed a WBC of 2200 with 19 bands, 31 segs, 42 lymphs, 4 monocytes, and 4 eosinophils. The hematocrit was 37% and a bone marrow was normal. A serum Na was 114 mEq/L and a K was 5.1 mEq/L with a urinary Na of 34 mEq/L and a K of 39 mEq/L. Twenty-four hour urinary 17-ketosteroids were 1.0 mg. and 17-hydroxycorticoids were 2.0 mg. After two eight hour I.V. ACTH stimulation tests, these values were 0.7 mg. and 0.4 mg. A diagnosis of Addison's disease was made, and she was placed on 25 mg. of cortisone and 0.1 mg. of 9-a-fluorohydrocortisone daily.

Her appetite and strength improved and she gained weight. The electrolyte and hematologic abnormalities reverted to normal. The fever decreased initially, but soon returned to 101-102° F daily along with the leukopenia. Three days before transfer here, she developed dyspnea, swelling of the face and neck, cough, pleuritic chest pain, and diarrhea without melena. She was readmitted to the hospital there where her blood pressure was 100/90. Puffiness of the face and eyelids, jugular venous distention, and rales at both lung bases, with dullness on the right, were noted. The heart sounds were normal. There was marked hepatomegaly. Her white count was 2,300 with 51 segs, 25 bands, 6 metamyelocytes, 6 monocytes and 1 basophil. The BUN was 26 mg% and the uric acid was 9.2 mg%. The serum protein electrophoresis was normal. She was digitalized and given atropine, ampicillin, and her hydrocortisone was increased to 400 mg/day, I.V. She did not improve and was transferred here. She denied a family history and contact with tuberculosis.

Physical Examination: The patient was obtunded and had a sallow color, but was not darkly pigmented. The blood pressure

was 85/65 with a pulse of 156 and respirations of 40 with a temperature of 40°C. There was shotty bilateral cervical and axillary nodes. The chest was hypo-resonant on the left with rhonchi at both bases. The heart sounds were regular and no murmurs were heard. The liver was down 4-6 cm. and a spleen tip was palpable. The reflexes were hypoactive.

Laboratory Data: A CBC showed 2 nucleated red cells/100 WBC and a shift to the left in the myeloid series. The hematocrit was 33% and the platelet count was 98,000/mm.^{3} The urine showed 1+ albumin and 1-2 white cells/hpf. Electrolytes, liver function studies, calcium, phosphorus, urea and sugar were normal. The pro. time was 16.5/10.5. The antinuclear factor and fungus complement fixation tests were normal. Bone marrow showed erythroid hyperplasia with increased karyorrhexis. EKG showed low voltage. Second strength PPD and fungus skin tests were negative. Chest x-ray revealed cardiomegaly, an infiltrate in the left lower lobe, and bilateral pleural effusions, greatest on the left. Blood gases on a 35% venti-mask were: PO_2 108 mmHg, PCO_2 13.5 mmHg, pH of 7.39. An L.P. revealed a pressure of 185 mm of H_2O with a total of 4 lymphs. Protein was 44 mg% and a glucose was 52 mg%. A left thoracentesis was done with removal of 700 cc's of fluid which had a specific gravity of 1.017 and 17 white cells with 232 red cells. The fluid had a negative pap and cell block.

Hospital Course: After initial evaluation and fluoroscopy, a pericardial tap was felt indicated. Prior to this, however, she became apneic. After 150 cc's of pericardial fluid was removed which contained 164 white cells and a sugar less than 50 mg%, and with assisted ventilation, she responded with spontaneous respirations and a low voltage cardiogram with normal rhythm. CNS depression persisted however from the evening of admission until she expired four days later.

She was treated with prednisone, penicillin, methicillin, kanamycin, INH, and ASA and continued to have daily fever spikes up to 39° C. On the day after admission, one observed noted bilateral hard breast masses and a 1 cm. axillary nodes on the left. A needle biopsy of the left breast showed fibrosis.

Clinical Discussion

Dr. Charles E. Hess: The problem we are concerned with today is that of a 37 year old white housewife from Hampton, who succumbed to an illness of apparently less than seven months duration. The initial features of this illness were vague headache, progressive weakness, malaise, weight loss, and later transient episodes of blurred vision, diploplia, syncopal attacks, chills, and fever.

Two months prior to admission here and some three to four months after the onset of symptoms, the patient was hospitalized in Hampton, and had an extensive evaluation. She was noted to be acutely and chronically ill with darkening of the skin. Daily fever spikes were noted along with several hypotensive episodes. A WBC was 2200 with 19 bands, 31 segs, 42 lymphs, 4 monocytes, and 4 eosinophils. The Hct. was 37%. The NA^+ was 114 mEq/L and K^+ 5.1 mEq/L with a 24 hour urinary Na^+ of 34 mEq/L and a K^+ of 39 mEq/L. Twenty-four hour urinary 17-ketosteroids and 17-hydroxycorticoids were 1 mgm and 2 mgm respectively with a failure of two eight hour I.V. ACTH stimulation tests to raise the levels.

These findings are diagnostic of Addison's disease. I shall not dwell at length on the laboratory diagnosis of Addison's disease except to say that a failure of 25-50 USP units of ACTH given I.V. over an eight hour period for three successive days to raise the 24 hour urinary output of 17-ketosteroids and 17-hydroxycorticoids is the best single test for adrenal insufficiency. A normal person will respond to such stimulation by increasing the 24 hour urinary excretion of these steroid metabolites by 8-16 mgm/day.

There is probably no place today for the use of other tests such as water excretion on water loading, response to salt deprivation, insulin and glucose tolerance tests.

The peripheral blood picture of leukopenia with absolute neutropenia, relative lymphocytosis, and borderline anemia are all consistent with the diagnosis of Addison's disease. Some 20% of patients show this picture. Neutropenia and eosinophilia are most common, but the blood picture is quite variable.[1] Recent work on the effects of glucocorticoids on granulopoiesis had shed some light on the possible mechanism of the neutropenia in hypoadrenalism. Glucocorticoids have been shown to block the egress of granulocytes from the vascular space and to increase the release of granulocytes from the bone marrow pool, leading to neutrophilia.[2] Thus, a neutropenia, in the face of low levels of glucocorticoids, would be expected on the basis of these studies. The anemia in Addison's disease is usually mild to moderate, normochromic and normocytic. The total red cell mass is usually lower than the venous hematocrit would indicate due to the associated contract plasma volume. The mechanism of this anemia is not well understood. Lower than normal levels of either androgens or cortisol might be expected to lead to anemia since both of these hormones are known to stimulate erythropoiesis. All of these hematologic findings are reversible with maintenance steroids.

After establishing the diagnosis of Addison's disease and instituting therapy, the only problem that remained at that time was the etiology of the Addison's disease. The only clue then to the existence of an underlying active disease process was the daily fever spikes which are usually not a part of Addison's disease. Sustained hyperpyrexia with extreme dehydration is seen with adrenal crisis, but that was not the case here. The fever may have been due to some secondary infection and I cannot rule out this possibility, but the subacute development of adrenal insufficiency and the subsequent rapid downhill course, in face of maintenance steroid therapy, are in the favor of some primary underlying disease being the cause of Addison's disease.

What underlying diseases does one look for when a diagnosis of Addison's disease has been established? In recent years, the etiology of Addison's disease has shifted somewhat in that the incidence of tuberculosis as a cause has dropped to less than 50% from earlier highs of 70-90%. Idiopathic or primary atrophy of the adrenal gland which in earlier reports constituted less than 20% of the cases now makes up greater than 50%. The reasons for the decreased incidence of tuberculosis as the etiology are probably better treatment and earlier recognition of active pulmonary disease in addition to an overall decrease in incidence of tuberculosis. With regard to primary atrophy of the gland, there is increasing evidence to suggest an autoimmune etiology. The histologic appearance of the gland with lymphocytic and plasma cell infiltration, the demonstration of circulating antibodies against adrenal tissue, and the increased association with other diseases thought to be on an autoimmune basis such as thyroiditis, diabetes, etc., all lend support to this hypothesis.

There are other causes of Addison's disease which include histoplasmosis and other systemic fungus infections, metastatic carcinoma, amyloidosis, leukemia, lymphomas, hemorrhage, thrombosis, syphilis, and pyogenic infections such as meningococcemia.

Histoplasmosis is second only to tuberculosis as an infectious cause and is of particular interest to this audience because Drs. Crispell, Parson, Hamlin and Hollifield published one of the earliest reviews of this subject.[3] They made the point that although the adrenals were involved in 35% of all cases of disseminated histoplasmosis, clinically apparent Addison's disease was not common. Histoplasmosis cannot definitely be ruled out here, but would be very unlikely in view of the negative skin tests and complement fix-

ation tests with active disease of six months duration.

Metastatic carcinoma is an uncommon cause of Addison's disease. This is surprising when one considers that some 9% of all cancer necropsies have adrenal involvement making the adrenals the fourth most common site of distant metastases from lung, liver, and bone. A review of the reported cases of Addison's disease secondary to metastatic cancer up to 1965 revealed 23 cases; most were from the lung with the breast second most common.[4] This finding is in keeping with the fact that carcinoma of the lung metastasizes to the adrenals 46% of the time and carcinoma of the breast 20% of the time. The reasons given for the low incidence of reported cases of adrenal insufficiency secondary to carcinoma are that the symptoms of terminal cancer are similar to those of Addison's disease and that many patients with carcinoma of the lung and breast are on corticosteroids. Also, tumor invasion of the adrenal gland with decreased cortisol secretion leading to increased ACTH secretion and hyperplasia of the remaining gland would tend to compensate for the tumor destruction, and some lung tumors secrete ACTH. Metastatic carcinoma is a leading contender here and I shall return to it later.

Hemorrhage into the adrenal gland and thrombosis of adrenal veins may occur as a part of many diseases such as overwhelming infections, metastatic carcinoma, lymphomas, trauma, etc., and produce Addison's disease. Of particular interest is the increasing number of reports of bilateral adrenal hemorrhage producing adrenal insufficiency in patients on anticoagulants.[5] This mechanism of adrenal insufficiency is possible in this case.

There was no evidence of miliary tuberculosis at the time of the initial diagnosis of Addison's disease. The absence of a contact with tuberculosis, the negative family history, the negative second strength tuberculin skin test, and the negative chest film were all against that diagnosis. Also, in most cases of Addison's disease secondary to tuberculosis, the tuberculosis is inactive.[5] However, in view of the subsequent course, miliary tuberculosis remains a distinct possibility. Other infectious etiologies of Addison's disease are unlikely with the negative blood cultures.

Since there were no real clues as to the etiology of her Addison's disease at the time of the initial diagnosis, I think one has to turn to the subsequent developments to arrive at a correct diagnosis. We are told that she had a dramatic response to maintenance streoids with a return to "vigorous health" and disappearance of the fever. However, the fever returned after three to four weeks, with the subsequent development of dyspnea, edema of the face, venous distention of the neck, cough, pleuritic chest pain, and diarrhea. She was transferred here and on admission was obtunded and severely ill. Findings here included hepatosplenomegaly, exudative bilateral pleural and pericardial effusions, an infiltrate in the left lung base, tachycardia, bilateral hard breast masses, which on biopsy showed only fibrosis, and a left axillary node.

Increased doses of steroids, massive antibiotic therapy, and digitalis which had been instituted by her referring physician were continued and INH therapy was added. The patient did not respond and died four days after transfer.

I believe this would be a good time to look at the x-rays. I am particularly interested in the chest film.

Dr. Theodore Keats: Chest films on admission showed bilateral pleural effusions and enlargement of the cardiac silhouette together with widening of the mediastinal shadow. The presence of a pericardial effusion was suggested and this impression was confirmed by fluoroscopy which showed diminished amplitude of cardiac pulsation. A film made later the same day showed evidence of pulmonary vascular congestion and signs of congestive heart failure.

A chest film made two days later showed some diminution in size of the cardimediastinal silhouette, but with continued evidence of pleural effusion, vascular congestion and what appeared to be pneumonitis in the left base.

Dr. Hess: Other pertinent laboratory findings included a WBC of 4700 with a left shift in the myeloid series and 2 nucleated red cells/100 WBC, a platelet count of 98,000/mm^3 and a hematocrit of 33%. A bone marrow was done and I had the opportunity to review it. The marrow was very active with a marked left shift in the myeloid series and a striking degree of erythrophagocytosis (Fig. 1); no tumor cells were seen. This degree of erythrophagocytosis (there was actually a marked degree of phagocytosis of other cellular elements including platelets and neutrophils) is characteristically seen in a malignant lymphomatous disease called histiocytic medullary reticulosis, but it is seen in varying degrees in other conditions such as hemolytic anemia and is generally considered non-specific. Pap smears, cell blocks, and cultures of the pleural and pericardial fluid were negative.

The peripheral blood picture presented on admission here was that of leukoerythroblastosis suggesting myelophthisic bone marrow disease. In considering the diagnostic possibilities that produce this blood picture, one is immediately struck by the similarity of these diseases with those that cause Addison's disease.

The endogenous bone marrow diseases that may be associated with leukoerythroblastosis include myelomonocytic leukemia, multiple myeloma, and myelofibrosis. Myelomonocytic leukemia and multiple myeloma are essentially ruled out by the appearance of the bone marrow and in the case of multiple myeloma and the normal serum protein electrophoresis. A diagnosis of myelofibrosis can only be made on bone marrow biopsy. This rapidly fatal course over a period of six months would be unusual in myelofibrosis. Also, one would expect the spleen to be larger. It is conceivable that an associated thrombosis of the

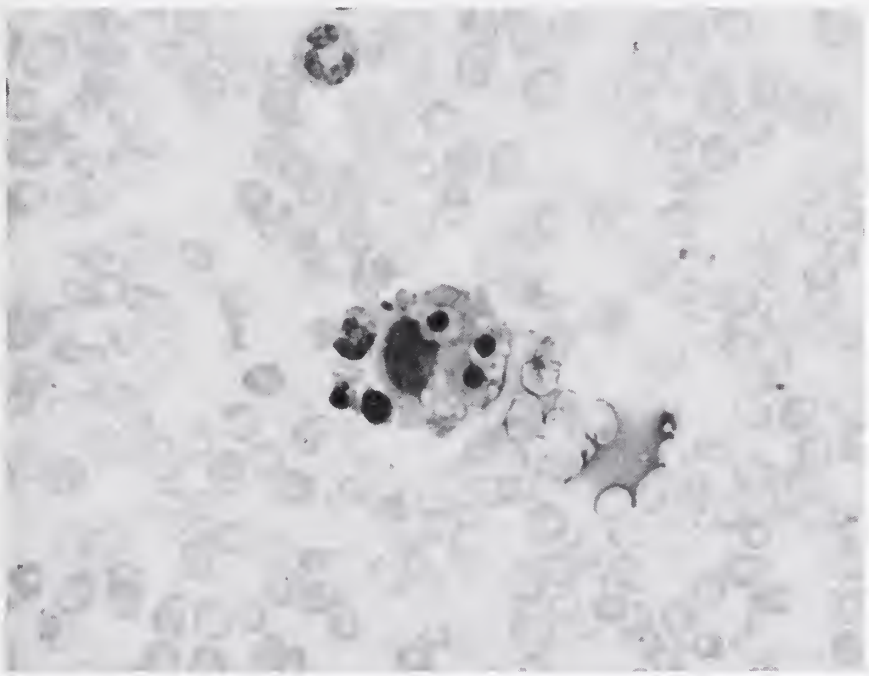


Fig. 1. Bone marrow aspirate showing prominent phagocytosis of leukocytes, platelets and nucleated and mature red blood cells by a histiocyte. Wright's stain x 720.

adrenals could lead to Addison's disease in this disorder, but I doubt if this is the underlying disease.

The exogenous diseases that may involve the bone marrow and produce this leukoerythroblastic blood picture include carcinomatosis, tuberculosis, and the lymphomas.

Certainly a diffuse carcinomatosis could produce all of the findings in this case including the Addison's disease. However, I am at a loss for a primary site. Also, splenomegaly is very unusual with carcinoma except carcinoma of the liver and we have no evidence to suggest primary hepatoma. The negative paps of the pleural and pericardial fluid are also against widespread carcinomatosis. A carcinoma of the lung cannot be ruled out, but would be somewhat unusual in a non-smoking female of this age. Carcinoma of the breast remains a possibility even though a needle biopsy of the mass only showed fibrosis.

Tuberculosis may produce a variety of peripheral blood changes including a leukoerythroblastic picture.[7,8] One may see a leukemoid reaction, polycythemia, aplastic anemia, and even a picture which is almost indistinguishable from acute leukemia. However, for the reasons mentioned above along with the failure to show any response to steroids and intensive INH therapy even though instituted late, I do not feel the patient had tuberculosis.

What then was the underlying disease in this case? If one were presented with this patient on her final admission and disregarding for the moment that she had recently developed Addison's disease, I feel a lymphoma such as Hodgkin's disease would be a leading contender. Hodgkin's sarcoma in particular can produce a leukoerythromblastic blood picture, fever, hepatosplenomegaly, an exudative pleuro-pericardial effusion with negative paps, and even the fibrotic breast masses and Addison's disease. Hodgkin's disease may even be primary in the breast.[9] In the old nomenclature of Hodgkin's disease there was a type referred to as "typhoidal form" where the patient presented with fever, hepatosplenomegaly, leukopenia, and diarrhea with rapid downhill course and death. At necropsy, the predominant finding was extensive retroperitoneal node involvement. Lymphomas and other malignancies may be complicated by diffuse intravascular coagulation and lead to adrenal infarction and insufficiency with actual invasion. The decrease in platelets and increased prothrombin time may indicate such a process here, but one would need to know the plasma levels of Factors V, VIII and fibrinogen to make the diagnosis.

Thus, being fully aware of the paucity of real objective findings that would permit one to make a diagnosis, I believe this patient's course is best explained on the basis that she had Hodgkin's sarcoma and that the Addison's disease was the result of invasion of the adrenals with tumor cells.

Clinical Discussion

Dr. Hess's Diagnosis:

1. *Hodgkin's sarcoma.*
2. *Addison's disease secondary to* (*1*).

Pathologic Discussion

Dr. Smith: The case today contains an interesting group of lesions which will be almost as numerous as were the speculations based on the clinical evidence. We are all interested, of course, in the question of Addison's disease, and I will turn first to the adrenal glands. The two adrenal glands were almost identical in their appearance. Both were reduced in size (2.5 gm. each), and the gross architecture was obscure, so that it was difficult to distinguish cortex from medulla (Fig. 2). This is the picture of primary or idiopathic atrophy. Neoplasms, either primary or metastatic, and active granulomatous diseases such as tuberculosis and histoplasmosis, in contrast, produce large adrenal masses. Certainly healed granulomatous disease in the adrenal might eventually result in a fibrosis and reduced adrenal

mass, but the history would suggest that if this patient's Addison's disease had been on the basis of granulomatous disease we should still see gross evidence of active disease. Metastatic carcinoma, unlike infections, which cause a destructive necrotizing lesion of the adrenals, rarely causes Addison's disease, because the centrifugal growth of the tumor tends to push the endocrine cells apart without destroying them. While they may be dislocated and without physical continuity, the cells continue to elaborate their hormones.



Fig. 2. Low power view of the one adrenal gland showing extreme atrophy and fibrosis. H&E x 25.

Microscopic sections of the adrenal glands confirmed the extreme degree of atrophy. While a few cortical clear cells were present, the cortical architecture was distorted and the medulla could not be identified. In the central portion of the gland, however, there was a phenomenon which may be a clue to



Fig. 3. Old organized and recanalized thrombotic occlusion of the central vein in one of the adrenal glands. H&E x 25.

the pathogenesis of the adrenal atrophy. In the central adrenal vein (Fig. 3) there was a typical organized thrombotic occlusion and recanalization to which we assign the non-

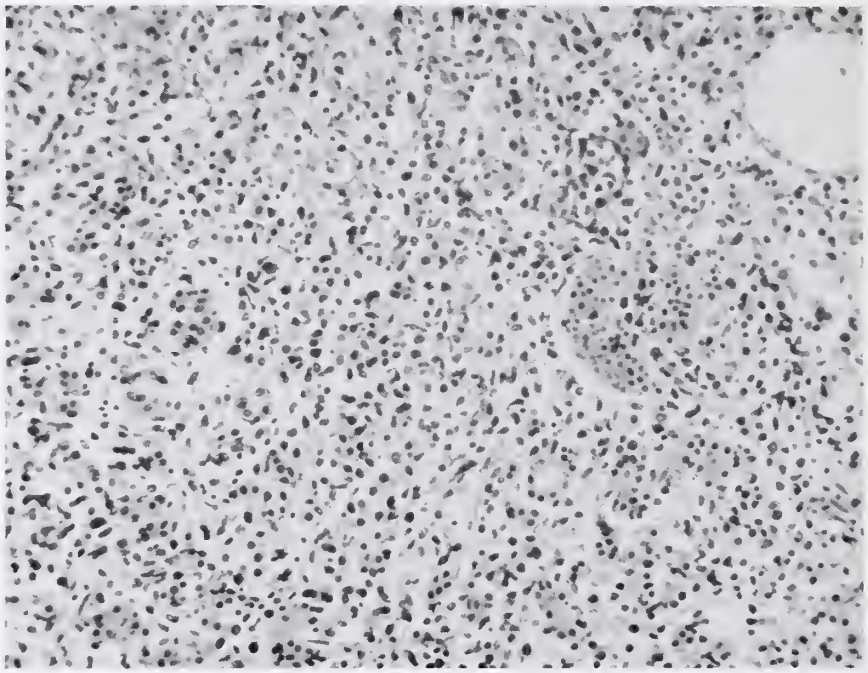


Fig. 4. Diffuse infiltration of the pancreas by reticulum cell sarcoma. Note the persistent islet of Langerhans and an occasional ductule. H&E x 280.

specific name, *endophlebitis obliterans*. A similar obliterative lesion was present in several small arteries in the adrenal. I cannot detect anything which would indicate the initiating factor or factors in this process of vascular obliteration. In most instances of atrophy of the adrenals, the mechanism is obscure. Recently, an auto-immune mechanism has been postulated. There was an infiltrate of lymphocytes and plasma cells in these adrenals, but this in itself cannot be interpreted as evidence of immunologic injury.

The Addison's disease appears, then, to be due to atrophy of the adrenal glands perhaps related to an obliterative angiopathy.

The next important lesion in this case was found in the retroperitoneal space in and around the pancreas. A tumor of homogeneous consistency occupied a considerable portion of the body and tail of the pancreas, without significant obliteration of the characteristic lobulation of the acinar tissue. We were at first inclined to call this a carcinoma of the pancreas, but microscopic sections of the pancreas (Fig. 4) showed a monotonous infiltrate of slightly irregular, mononuclear cells with open nuclei and sometimes prominent nucleoli, which characterize the tumor as a reticulum cell sarcoma. This same tumor was found in peripancreatic, mesenteric and thoracic lymph nodes, the mucosa of the



Fig. 5. Nodular infiltrates of reticulum cell sarcoma in the myocardium with extension to the epicardium.

small intestine, the thyroid, bladder wall, heart, breast, adrenal glands and the lung.

The heart was of normal size, but the myocardium contained several tumor nodules (Fig. 5), some of which extended to the epicardium, and 200 ml. of serous fluid were present in the pericardial sac. Microscopic foci of myocardial necrosis sometimes surrounded the tumor infiltrates (Fig. 6).

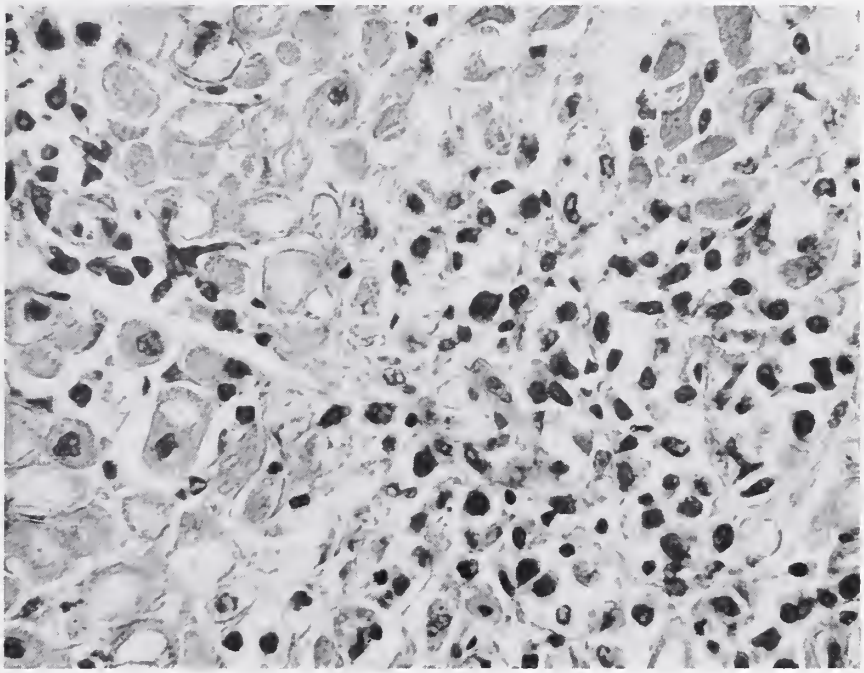


Fig. 6. Infiltrate of reticulum cell sarcoma in the myocardium. Note the degeneration of adjacent myocardial fibers. H&E x 560.

The lungs were not heavy, but numerous wedge-shaped old and recent infarcts were present in both lungs in association with thrombotic emboli in the pulmonary artery branches. Apical scars of healed tuberculosis were present, but there was nothing to suggest active pulmonary tuberculosis. In microscopic sections of the lungs, a heavy infiltrate of reticulum cell sarcoma involved the peribronchial lymphatics. I think this probably accounted for the accumulation of 1000 ml. of fluid in both pleural spaces. The liver was congested, probably on the basis of the pericardial effusion, but contained no tumor.

There is a puzzling hiatus in the clinical story as regards the next important finding in this case. We are told that soon after admission to the hospital, some four days before death, the patient became apneic and remained in a state of depressed consciousness until her death, so that little hope was held for her survival. Nevertheless, during the ensuing three days several things continued to develop. When the abdomen was opened at autopsy, 1500 ml. of bile-tinged fluid were discovered, along with extensive fat necrosis in the omentum. The source of this fluid was a perforated acute peptic ulcer in the first portion of the duodenum (Fig. 7)

The brain was normal except for an old area of cystic encephalomalacia in the left cerebellar hemisphere. Despite the dismal prognosis assigned to the patient on the basis of her mental status during the last three days of her life, we found no evidence of recent brain injury.

So, Dr. Hess, this little museum, if you will, presents, in my opinion, a primary atrophy of the adrenal glands complicated by the appearance of reticulum cell sarcoma which, although it involved the adrenals, seems to have done so in a minor way. The final event is clearly the development and subsequent perforation of an acute duodenal ulcer.

Dr. Hess: Was the bone marrow examined?

Dr. Smith: Two sections failed to show tumor, but the problem of sampling does not allow us to exclude the possibility of marrow involvement and answer Dr. Hess' question regarding the leukoerythroblastic phenomenon.

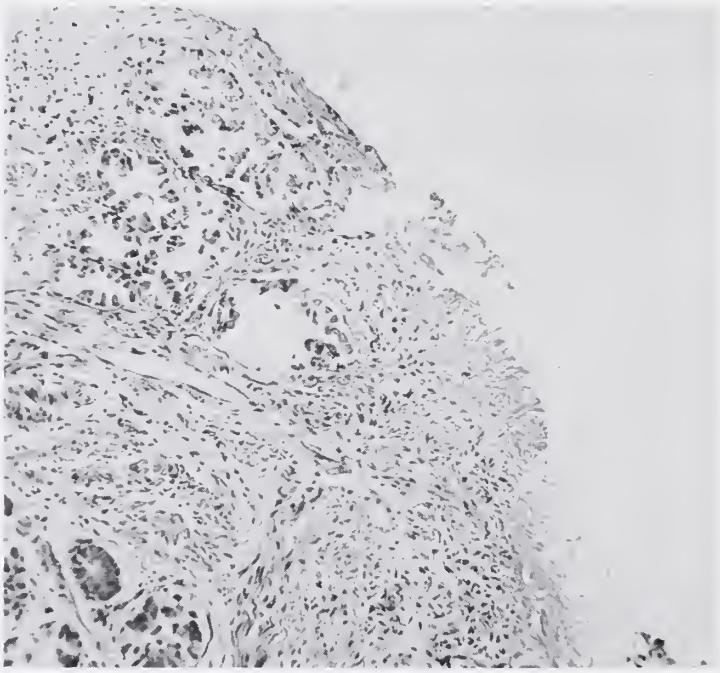


Fig. 7. Edge of the perforated duodenal ulcer showing peptic digestion. There is no tumor infiltrate. H&E x 125.

Dr. Byrd Leavell: Did you find abnormal histiocytes in the liver or lymph nodes?

Dr. Smith: A few, but certainly not the number or type that would have been expected in a condition such as histiocytic medullary reticulosis.

Dr. John Owen: What was the cause of the pericardial effusion?

Dr. Smith: Probably the tumor, since the epicardial surface was involved by the tumor.

Pathologic Diagnoses

Extreme atrophy and fibrosis of the adrenals

Reticulum cell sarcoma

Thrombotic pulmonary emboli with multiple infarcts

Perforated duodenal ulcer

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Cancer Trends . . . .

Early Diagnosis of Breast Cancer

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Statistics from the American Cancer Society showed an estimated 65,000 new cases of breast cancer in 1968. It is the number one cancer killer among women with 28,100 estimated deaths in 1968, and it is also the foremost cause of death in females between the ages of 40-44.

The five year survival rate from breast cancer is 82% when localized, but only 47% when regional involvement is present. Early diagnosis is therefore essential for improved results, and mammography, xerography and thermography are, for the time being, our three possible means in addition to physical examination for detecting localized breast cancer (Stage 1).

Mammography was introduced by Salomon in 1913 but was neglected for many years. Due to new interest and better techniques, it was brought to our attention by the American radiologists, Egan and Gershon-Cohen. Its value is well established and the examination is now more widely employed.

The essential element in the acceptance and practicality of mammography is the quality of the films which can be achieved with low kilovoltage (20-30 kv.) and good detail with a small focal spot. The proper training of the technician is also of paramount importance.



Fig. 1. Fibrocystic disease with multi-locular cysts.



Fig. 2. Fibroadenoma.

Xerography, a method using a charged selenium-coated plate, gives greater detail and is easier to interpret, but has certain

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Sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.

technical limitations. When these are overcome, xerography may have some diagnostic advantage over conventional mammography.



Fig. 3. Adenocarcinoma with calcification in the mass.

Thermography is an extension of thermometry, but the technique, as applied to the breast, is still in its infancy. Used to supplement roentgenography, it seems, however, to have a wide spectrum of applications, among others the ability to detect preclinical lesions in the breast.

The accuracy of the diagnosis in mammography varies from 85-95 per cent in both benign and malignant lesions. With thermography, a localized "hot spot" has been found in 94 per cent of breast cancers, but it is also present in about 25% of women with normal and dysplastic breasts. Six per cent of the breast cancers fail, however, to give a detectable rise in skin temperature.



Fig. 4. Adenocarcinoma with skin thickening and nipple retraction.

In spite of advances in surgery, radio- and chemotherapy, the survival rate from breast cancer has not shown much improvement over the last few decades. Ninety-five per cent of the women with breast cancer still

discover their own tumors but, at this stage, approximately 50% have metastasis. Our goal must, therefore, be to detect the tumor at an earlier stage and, with mammography, xerography and thermography, it is possible to find preclinical tumors before metastases have occurred. At this time, mammography and thermography appear to be complementary examinations rather than competitive.

It has been suggested that mammography may be suitable for screening by non-professional personnel, but, for the time being, such a program on a large scale cannot be effectively implemented until a sufficient number of trained radiologists are available.

The following conditions appear to represent adequate indication for mammography:

1. Signs, questionable signs, or symptoms of disease of the breast.
2. Previous radical mastectomy.
3. High familial occurrence of cancer of the breast.
4. Cancerophobia.
5. Previous breast biopsy.
6. Lumpy or pendulous breast difficult to evaluate by clinical examination.
7. Adenocarcinoma, primary site undetermined.
8. As a basis for future comparison.

Conclusion

With future progress in thermography and xerography, a large-scale screening program for breast cancer is possible if enough trained personnel are available. Thermography eventually followed by mammography and/or xerography would appear to represent a logical approach to large-scale detection programs. Preliminary programs of this type are being tested currently under the auspices of the American Cancer Society.

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Comment

Mammography is a relatively recent development from the standpoint of the diagnosis of breast cancer, and there seems to be no question that this radiologic technique occasionally detects a cancer in the breast when no lesion is actually palpable on clinical examination. As noted by Dr. Riddervold, there are studies now underway to determine whether or not this is a frequent enough finding to justify mammography as a periodic screening technique. This type of examination does require considerable time and special training to accomplish high quality films, and it will be important to determine the actual yield before advising its widespread use on our asymptomatic female population. Nevertheless, the points made by Dr. Riddervold regarding high risk groups are now generally accepted by most physicians who have had experience with this diagnostic method. If periodic mammographic examination does prove to be feasible for wide scale screening purposes, the fact that there are some "false positive" examinations will not really be a detriment.

The question often arises as to the role of mammography in the patient who has a palpable mass on physical examination. Usually this type of patient is subjected to surgical excision for pathologic diagnosis, but it would be quite helpful if mammography could lead to omission of surgical biopsy in selected patients.

To answer this question a study was recently carried out in the Division of Surgical Oncology at the Medical College of Virginia.[1] Mammographic data were collected over a two year period from 128 breast lesions that were eventually subjected to biopsy and pathologic study. Accuracy of the examination was in the same range as reported by others, but some lesions were

correctly diagnosed by clinical examination although the radiologic diagnosis was incorrect. The converse was also true in some instances. In our assessment of the mammographic data we found that our ability to make a radiologic diagnosis of cancer was greater than suspected, but the fact that a few cancers were incorrectly interpreted as benign lesions still placed the surgeon in the position of being unable to avoid surgical biopsy of a palpable breast mass. One finding of interest was the fact that the actual mass in the breast was very difficult to identify in younger patients, particularly those under 30 years of age, due to the radiologic features of normal breast tissue in this age group.

Although our findings led us to assume that mammography does not eliminate the need for biopsy whenever a palpable mass is present, this radiologic technique does add to the diagnostic accuracy of clinical examination. In this regard it might produce some advantage in terms of preoperative preparation of the patient. Most important, however, is the fact that an unsuspected lesion may be found in the opposite breast or the same breast of a patient who presents with either cancer or a benign breast lesion. However, for patients under 30 years of age we have discontinued these examinations due to the poor yield of diagnostic films.

Although Dr. Riddervold may be overly optimistic about the future potential of all three examinations in increasing early diagnosis, and thereby survival rates, the further exploration of these techniques seems definitely warranted. Even when the breast lesion has been detected by clinical examination, there appears to be some advantage to the use of these methods prior to the indicated biopsy.

The Editors

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Highway Accidents

While more than 40 percent of driver-error-caused deaths on America's highways in 1968 were blamed on excessive speed, only 20 percent of the injuries were attributed to this activity. The second major cause of fatalities blamed on actions of drivers was reckless driving. It figured in nearly 15 percent of the deaths and more than 39 percent of the injuries.

The conclusion, voiced many times before, according to The Travelers Insurance Companies, is "speed kills".

The statistics are contained in the annual booklet on highway accident data published by The Travelers. Figures are supplied by state motor vehicle departments.

Other major factors involving actions of drivers resulting in deaths and injuries include driving on the wrong side of the road, not having the right-of-way, and driving off the roadway.

In the ten-year period from 1959 through 1968, young driver involvement in fatal accidents increased more than 20 percent. Last year, precisely one-third of people at the wheel when accidental death occurred in car crashes were 25 years or younger. The implication of immaturity expressed by speed is inescapable, "under-25 drivers amount to only one-fifth of the driver total but they are in the terrible middle of one-third of all fatal auto crashes."

The 1968 traffic death toll reached 55,-300, 3,000 more than were killed in 1967. Injuries in 1968 rose to 4,400,000 from 4,200,000 in 1967.

Diagnostic Laboratory Medicine . . . .

SAM F. VANCE, III, M.D.

Leptospirosis—Methods in the Laboratory Diagnosis

Leptospirosis was first described as a syndrome by Weil in 1886. The entity was characterized by fever, jaundice, hemorrhage, and involvement of liver and kidney. In 1917, leptospires were isolated from wild rats in the United States by Noguchi, who described these organisms and gave them the name *Leptospira icterohaemorrhagiae*. Since that time, the clinical manifestations of human leptospirosis, together with knowledge of its eidemiological aspects, have greatly increased. The disease occurs most frequently during the months of June through October, with a peak incidence in the month of August.

During the year 1967, a total of 51 cases of human leptospirosis were reported to the National Communicable Disease Center throughout the United States.[7] In the past 15 years at the Medical College of Virginia Hospital, four separate cases of human leptospirosis have been diagnosed.[1] Due to this rare occurrence and diversity of symptoms, the clinical diagnosis of leptospirosis is virtually impossible without laboratory confirmation.

In general, the laboratory diagnosis of leptospirosis can be divided into four categories. The first includes the demonstration of leptospire organisms by dark-field or fluorescent microscopy. The second includes the isolation of leptospire organisms by use of special culture media such as Fletcher's semisolid media or Stuart's liquid media. The third includes serological tests to detect antibodies in the patient's serum, together with serotyping of the culture isolate. A fourth includes biopsy of the gastrocnemius muscle. When these tests are properly selected, the information gained in most cases is sufficient to make the diagnosis of leptospirosis unequivocal.

Demonstration of leptospires in the blood or urine of a patient is useful as an ancillary method. Leptospiremia occurs during the acute phase of illness, and at this time leptospires may be found in the blood (dark-field microscopy). Leptospiruria frequently occurs after the first week of illness, and may continue throughout the immune phase of illness, and occasionally leptospires may be found in the urine (dark-field microscopy). However, even in the hands of the most experienced worker, this method results in failure or misdiagnosis so frequently that it should never be used as the sole diagnostic test. Fluorescein-labeled, anti-leptospira globulins have been made available commercially. This fluorescent antibody method has been successfully applied to identification of leptospires in tissue, blood, urine, and from cultures. The limiting factor with this method is that fluorescent antibodies to only the most commonly encountered leptospire organisms (*L. canicola*, *L. icterohaemorrhagiae*, and *L. pomona*) are available.

Isolation of leptospire organisms requires specialized media, which usually have a common denominator slightly hemolyzed rabbit serum. For primary isolation, the most widely used is Fletcher's semisolid medium. Stuart's liquid medium is used for antigen production. Cultures are incubated either at room temperature in the dark, or in a 28-30°C. incubator for five to six weeks or until positive. Growth occurs in Fletcher's medium as a concentrated ring 0.5 to 1.0 cm. below the surface, and is documented by dark-field examination. Bacterial overgrowth can be minimized by addition

of sulfadiazine or sulfaguanidine in low concentrations.

Collection of the specimen is of utmost importance in the isolation of leptospire organisms. Blood should be obtained during the acute phase of illness, as should spinal fluid in cases where there is clinical evidence of C.N.S. involvement. Urine should be obtained during the acute phase and immune phase of illness, since leptospire organisms may be shed in urine as early as eight days and continue for 30 days. Fletcher's medium can be conveniently prepared in screw-cap tubes and inoculated at the bedside, and where necessary mailed to a diagnostic laboratory. However, despite careful attention on the part of the clinician and the bacteriologist, the isolation of leptospire organisms continues to be very difficult as evidenced by Heath et al.[6] in whose series the recovery rate was reported to be 14 of 483 cases (3%).

By far the most consistent and helpful laboratory diagnostic aid is the demonstration of leptospiral antibodies in the patient's serum. Several serological procedures are available for this purpose, but the most widely used today is the macroscopic slide agglutination test described by Galton.[3,4,5] This test is a rapid screening procedure which entails the use of four pools of leptospiral antigens, each of which includes three different strains (Table 1). Each strain used in the pools has been selected to include a member from serogroups present in the United States. An additional pool of antigens can be prepared for use, when initial screening by the four pools listed above is negative. When positive agglutination reactions occur in one or more pools of antigens, the patient's serum is then tested separately against each antigen included in the pool, and the reactions are titrated to an endpoint to obtain a rough estimate as to the titer. Serum obtained during the acute phase of illness will often show cross-reactivity among the various pools which is related to the sensitivity of the macroscopic slide agglutination test. A subsequent serum obtained during the immune phase of illness (10-14 days following the first week of illness) and a convalescent serum are necessary to demonstrate a change in titer. Serological diagnosis cannot be made without obtaining at least two serum specimens.

Table 1

Antigen Pools Used in Macroscopic Slide Agglutination Test

Pool 1	*Pool 3*
L. ballum	L. autumnalis
L. canicola	L. pomona
L. icterohaemorrhagiae	L. sejroe
Pool 2	*Pool 4*
L. bataviae	L. australis
L. grippotyphosa	L. hyos
L. pyrogenes	L. mini georgia

The macroscopic slide agglutination test can be rapidly and easily performed by the small hospital laboratory. Commercial preparations of pooled and individual leptospiral antigens are available, and these preparations are stable for periods of up to a year. This test is more sensitive than the microscopic agglutination test, and titers obtained by both methods parallel each other.

The microscopic agglutination test, using live leptospiral antigens, is the reference test by which all other serological procedures are standardized. This test requires the maintenance of stock cultures of the 12 serotypes employed in the macroscopic test, and laborious microscopic examination of all reactions with patient's sera. The use of live antigens is not without hazard to laboratory workers, and laboratory infection occasionally occurs. For these reasons, the microscopic agglutination test is performed only at reference or state laboratories and at the Communicable Disease Center. Sera found to be positive by the macroscopic slide agglutination in the hospital laboratory should be sent to a reference laboratory for confirmation.

Other serological procedures including the microscopic agglutination test with killed

(formalinized) antigens, complement fixation test, and hemagglutination test have been developed, but none of these procedures have been used widely by the small hospital laboratory.

At this time, there are no known biochemical reactions by which the genus Leptospira can be classified. The best method available for identification of the infecting serotype is an antigenic analysis of the culture isolate.[3] The most commonly encountered species are *Leptospira icterohaemorrhagiae, canicola,* and *pomona.*[6]

An additional ancillary procedure which should be mentioned is biopsy of the patient's gastrocnemius muscle during the acute phase of illness.[2,8] Leptospire organisms can occasionally be demonstrated in the biopsy tissue by use of the Levaditi staining method. Identification of the organism, plus a microscopic picture characterized by muscle necrosis and mononuclear cell infiltrate with perivascular cuffing, offer a presumptive diagnosis until further serological evidence or positive cultures can be obtained.

The interpretation of laboratory findings should include knowledge of the clinical and epidemiological history. This is especially important when evaluating the serology in order to determine whether the patient has had previous exposure to the organism with an anamnestic response, or whether the patient has a current infection in the acute or convalescent phase. The minimal diagnostic criterium from the laboratory investigation should be a change in titer of the leptospiral antibodies in the patient's sera. This change in titer should be verified by a microscopic agglutination test at a reference laboratory. If leptospires can be isolated and serotyped, the diagnosis is unequivocal.

Summary

The laboratory diagnosis of leptospirosis is discussed. Current methods used in laboratories are included, and their relative advantages and disadvantages are mentioned. The interpretation of laboratory data and diagnostic criteria are given.

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Mental Health . . . .

JOHN B. DYNES, M.D.

Cause of Death in Schizophrenia

Schizophrenic patients are frequently considered to be "a group apart" despite multiple symptoms, as well as etiologic factors. A recent author[1] states "it would be wise to see the schizophrenias as a final common pathway reflecting the interaction of biological, emotional, familial and social factors." Schizophrenic patients may show some or all of the symptoms of inappropriate emotional response with flattening of affect and withdrawal, frequent occurrence of delusions and hallucinations, lack of insight, episodes of violence, irresponsibility and failure of social adaptability. All of these make for long term hospitalization. Schizophrenics occupy more beds in mental hospitals than any other group. As the schizophrenic grows older he tends to deteriorate emotionally (except in the paranoid group) and may also show intellectual deterioration. Many writers in the past have pointed out the altered response of the schizophrenic to a variety of physiologic and endocrinologic stimuli, which along with genetic somatoemotional and environmental factors tend to confirm that the schizophrenic as a group are different from other mental disorders.

The fact that schizophrenics are different, suggests that the cause of death in this group of patients might be of interest. Although individual case reports[2,3,4,5,6] with autopsy findings have appeared from time to time, I have not seen a large series of autopsy reports stating the primary anatomical cause of death. I have, therefore, reviewed the autopsy protocols of patients with schizophrenic diagnoses at a Veterans Administration Hospital over a 10-year (1957 to 1967) period.

There were a total of 1,756 deaths in the hospital for this period and 846 autopsies performed or an autopsy rate of 48%. There were 135 of these done on patients with a prior diagnosis of schizophrenia or only 16% of the total autopsies performed. We know the census of patient population at this 1,872 bed hospital hovers near 60% in the schizophrenic group. It seems possible that there was a combination of factors responsible for this low rate of autopsies in the schizophrenic group. Either the death rate on the medical and surgical services is much higher or there is little interest on the part of physicians in securing autopsies on those chronic schizophrenic patients, or possibly no responsible member of the patient's family was willing to sign the permission for autopsy. Whatever the reason, I did review the autopsy protocols on 135 schizophrenics and report the primary cause of death in Table I.

One might postulate that when the schizophrenic does die he might have some unusual or bizarre anatomical disorder to match his psychosis, but this is not borne out by the autopsy reports. Table I shows the primary cause of death by age groups. The mortality figures given in the Life Insurance Fact Book[7] for 1966 indicates that diseases of the heart was the leading cause of death in the United States, making up about 40% of the total. It is evident that cardiac disease is the most frequent cause of death in the schizophrenic group making up about 35% of the total. The second most frequent cause of death in schizophrenic patients was pulmonary disease, making up about 23% of the total, compared to the Insurance Fact Book figures of only 3% for the United

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Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

States. Cancer was the third most frequent cause of death in the schizophrenic group making up 13%, whereas in the United States figures it was the second most frequent cause of death making up 19% of the total. Surprisingly 17 schizophrenic patients or 12.6% died suddenly and unexpectedly and at autopsy sufficient anatomical cause for death was not found. Those 17 schizophrenic deaths have been reviewed elsewhere[8] and form an unusual and interesting group. Suffice to say, in this paper, there was no definite proof that the phenothiazines were responsible for these deaths. There were no cases of aspiration in this group. Fifteen of the 17 had occurred after interruption of consciousness following syncope or convulsions or during sleep. Only one was proven to have ventricular fibrillation prior to death. Only five of the 17 were taking phenothiazines at death. In this group of 17 sudden deaths, the interruption of the electrical impulse originating in the vital centers of the brain was thought to be more important in causing death than a hyperirritable myocardium or an over responsive vasovagal mechanism.

The less common disorders found at autopsy and not included in Table I, were peritonitis, meningitis, miliary tuberculosis, brain tumor and leukemia, but these disorders were not necessarily a primary cause of death. Of interest are the two patients who died of miliary tuberculosis. The incidence of tuberculosis in mental hospitals was very high a few decades ago but with improved hygienic conditions, medical treatment and better isolation and segregation facilities, tuberculosis is now near the bottom of the list.

Table I shows the primary anatomical cause of death according to age groupings, by decades 20 to 80 years. As one might expect there were few cardiac deaths, nine in the first three decades (20 to 50 years), as compared to 34 in the 51-80 year groups.

TABLE I

Primary Cause of Death in Schizophrenia—Veterans Administration Hospital 1957-1967

Age Groups	Cardiac	Pulmonary	Cancer	Sudden Death Without Anatomical Change	Ruptured Aneurysm	Suicide	Cerebral Hemorrhage
20–30	0	0	0	1	0	2	0
31–40	2	6	3	0	1	2	1
41–50	7	7	4	6	1	2	0
51–60	14	2	5	3	0	0	2
61–70	14	6	2	4	2	0	1
71–80	10	10	5	3	2	0	0
Total	47	31	19	17	6	6	4

The deaths from pulmonary disorder are not as well separated as the cardiac deaths showing 13 deaths in the first three decade groups and 18 in the last three decades with a high of 10 in the 71-80 year group, indicating the well known susceptibility of the elderly to a terminal pneumonia. Cancer occurred with a fairly even distribution except for absence in the 20-30 year group. Sudden death without anatomical cause occurred in the 41-50 year decade most frequently. The reason for this was not apparent from a review of the records, although as previously stated 15 of the 17 in this group died immediately following syncope or convulsions or during sleep, indicating a disturbance of

"the spark of life" originating in the vital centers of the brain. Suicide occurred in the first three decade groups (20 to 50 year) with no suicides in the 51-80 year groups, possibly indicating a blunting of emotions and withdrawal in the later decades of life.

Of some interest is the autopsy report of a generalized senile atrophy of the brain in five of those brains examined. This is not surprising as almost half of those autopsied were over 61 years of age. Three patients had brain tumors but this was not the primary cause of death and was not directly related to their mental disorder. It was also noted that there were seven schizophrenics who had diabetes of a mild type. None of them died in diabetic acidosis or coma. The primary cause of death in this group of schizophrenic diabetics was either cardiac or pulmonary.

It is evident that patients do not die of schizophrenia. However, it may be of some significance that there was not a single death that could be attributed to the "fatal catatonic" [3] syndrome or "exhaustion" syndrome[4] which was not uncommon up to 20 years ago in mental hospitals. This may be related to the fact that treatment of electrolyte imbalance in these patients has helped to control the "exhaustion" syndrome plus the more recent use in the last 10 to 15 years of the tranquilizer drugs, particularly Chlorpromazine which does lessen or relieve the marked periodic restlessness and violence of many schizophrenic patients.

The primary cause of death in schizophrenic patients is cardiovascular disease with pulmonary disorders second and cancer third competing with sudden unexpected death without sufficient anatomical cause found at autopsy in fourth place. This latter finding recalls statements made by Soma Weiss[9] "postmortem study alone does not always give a precise explanation of death", and another statement, "why with the same degree of structural damage present, sudden death occurs in one person and not in another remains unanswered."

In spite of the fact that the schizophrenics as a group present a different and unique mental disorder, the primary anatomical cause of death in this group of patients shows very little variation from the general population of the United States. In these 135 schizophrenic patients who came to autopsy at this VA Hospital, the anatomical findings offer very little explanation of the behavioral abnormalities of these patients during life. It becomes evident that there are multiple factors that must be considered in the etiology of schizophrenia that do not produce gross or microscopic anatomical changes at death. The search for the break in the chain of somato-emotional, genetic and environmental factors that seem to combine to precipitate and perpetuate this major mental disorder continues, with greater hope of solution or alleviation than ever before in psychiatric history.

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Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Rubella: Facts and Questions

The advent of an effective vaccine against rubella presents certain new and challenging problems to the physician and the public health practitioner. In the past, vaccines have had a self-evident purpose: protection against a dangerous disease. In the United States eradication of smallpox was achieved almost 20 years ago; intensive efforts have almost eliminated polio; significant advances have been made against rubeola, although unprotected areas continue to exist.

But rubella, in its common form (i.e., acquired rubella syndrome) is considered a trivial disease. There are certain complications, such as encephalitis, thrombocytopenia and transient arthritis, but these are, from the public health viewpoint, of minor importance. Its major significance, as is well known, is its effect on a child whose mother becomes infected during the first trimester of pregnancy. The syndrome of congenital rubella, whose cardinal features are hearing loss, blindness, mental retardation and cardiac abnormalities, was first described in 1941. It has since been clearly established as one of the major causes of congenital defects. It is estimated that there are approximately 20,000 rubella-damaged children as a result of the 1964 epidemic.

Epidemiologically, rubella is a disease of childhood, and young adult women contract it as secondary (usually household) contacts. In addition, since the vast majority of women in their 20's (approximately 85%) have had the disease, they do not serve as a reservoir. The disease is propagated in the community via young, susceptible children.

We are thus faced with the prospect of vaccinating a large group of individuals (pre-pubertal children) against a relatively harmless disease (acquired rubella) for the purpose of protecting a small group (susceptible pregnant females) in whom infection might result in serious damage to a third, even smaller group (unborn fetuses).

A vaccine, then, has been developed not for the purpose of dealing with a disease per se, but for dealing with an indirect effect, and an effect which is, at that, relatively rare in relation to the occurrence of the disease itself.

From the public health point of view, it is clear that large scale vaccination of the reservoir (i.e., young children) is the only means of eradicating the disease and of truly eliminating congenital rubella syndrome. Why not simply immunize adult women against rubella? Certainly, the question has validity, not only from a public health viewpoint, but from the social and emotional considerations involved.

For its answer, we must turn to what we know, and more importantly, what we do not know, about rubella vaccine. It is clear that in pre-pubertal individuals, the vaccine is harmless and produces protection against the disease. There is good evidence to suggest, as well, that attenuated vaccine virus is not transmissable from individual to individual. On the other hand, the incidence of arthritis and arthralgia is increased in older individuals. One recent small study (New England J.M. 280:682, 1969) indicated that approximately 60% of young adult women experienced this complication after vaccination. More serious sequelae of rubella have not been noted with the vaccine.

It is clear, then, that the vaccine is "attenuated" as far as acquired rubella is concerned. What is NOT known is whether

or not the vaccine virus is teratogenic. There is virtually no evidence, at the present time, for or against the possibility of harmful effects on an unborn fetus. It is clear that as long as this possibility exists, utmost caution must be exercised in the administration of vaccine to adult women.

With these questions in mind, the U. S. Public Health Service Committee on Immunization Practices has prepared provisional recommendations for use of the vaccine in the United States. The vaccine is recommended on a wide scale for pre-pubertal children, in an effort to eradicate the disease, but is not recommended for young adult women.

Community pressures may be exerted on physicians to administer the vaccines to this latter group. In that event, tentatively, the following procedure is recommended: (1) that a rubella serology be obtained (since 85% of adult women will be seropositive, they can simply be reassured and hence not exposed to the possible risk); (2) if the patient is seronegative, that evidence be obtained that the patient is not pregnant and (3) that a medically acceptable means of contraception be employed for at least two months subsequent to administration of vaccine.

In an effort to establish adequate surveillance of congenital rubella syndrome, as well as possible adverse effects of vaccines, we are enlisting the support of private physicians and hospital administrators throughout Virginia. We have requested that all cases of congenital rubella syndrome, diagnosed as far back as 1964, be reported to the Bureau of Epidemiology, State Health Department, and that new cases be reported as well when they occur.

At the time of this writing the vaccine has not yet been licensed, and we have already become embroiled in medical, social, emotional and moral issues. Certainly, therapeutic abortion plays an important role in this controversy. We can only hope that, through all this, the basic aim may be kept in mind: the prevention of babies damaged by infection with rubella.

Monthly Report of Bureau of Communicable Disease Control

	Apr. 1969	Apr. 1968	Jan.-Apr. 1969	Jan.-Apr. 1968
Brucellosis	3	7	12	9
Diphtheria	0	0	0	0
Hepatitis	63	43	133	169
Meningitis (Aseptic)	1	1	4	1
Meningococcal Infections	3	4	32	19
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	0	3	0	4
Rubella	52	482	121	343
Rubeola	200	50	645	189
Streptococcal Sore Throat or Scarlet Fever	1859	1236	7096	6401
Tularemia	0	0	0	1
Typhoid	0	0	0	3
Rabies (in animals)	33	10	222	72
Venereal Disease				
Syphilis	174	159	525	554
Gonorrhea	978	674	3755	2020
Other	8	2	12	5

The Medical Society of Virginia . . . .

Medicine and Religion

On March 28, 1969, your Chairman, together with Mr. James L. Moore, Assistant Executive Secretary, The Medical Society of Virginia, attended a special meeting at the Portsmouth Naval Hospital arranged by Commander Murray G. Mitts. The trip from Lynchburg, with a stop in Richmond, was made possible through the courtesy and generosity of Mr. W. Calvin Falwell, an official of Falwell Airport in Lynchburg.

Others attending the meeting were Captain James Agnew, Commander Bachmann and William T. Vest. The meeting was most interesting and informative and provided your Chairman an opportunity to learn more about medicine and religion activities in the Portsmouth area.

The Portsmouth Naval Hospital will, on June 12, 1969, be the scene of a seminar having to do with "The New Definition of The Role of Clergy in The Hospital". All members of The Medical Society of Virginia are cordially invited to attend.

Commander Mitts made an excellent suggestion with reference to our proposed medicine and religion workshop in September. He thought that a great deal might be gained from presenting specific cases where physicians and clergymen have worked closely together. Perhaps we should mention that there is an excellent movie entitled "Storm and Strife" dealing with this subject.

From all indications the work of the President's Commission on Mental Retardation ties in very closely with our own objectives and I would like very much to see the Mental Health Committees of The Medical Society of Virginia and Virginia Academy of General Practice work together with the Committees on Medicine and Religion of these same two organizations.

I also hope that the Presidents of these two groups will stress the importance of these Committees working together—in cooperation with the President's Commission on Mental Retardation.

Through this joint effort, I believe that a great deal can be accomplished when working with families having mentally retarded members. This should be particularly true where the clergy is concerned.

This suggestion is in no way meant as criticism of the Committees on Mental Health of The Medical Society of Virginia and Virginia Academy of General Practice. The fact is that they are both doing outstanding jobs.

Your Committee on Medicine and Religion has recently been contacted by Mrs. James L. Thomson, wife of a Norfolk physician, who is extremely interested in the relation of the "medicine and religion" movement to mental health. The Committee certainly looks forward to working with her.

I certainly hope that this report will create interest in the field of medicine and religion and that future Presidents of The Medical Society of Virginia and Virginia Academy of General Practice will continue to appoint to our Committees physicians who have demonstrated a genuine interest in this very important aspect to the overall care of the whole man.

John Wyatt Davis, Jr., M.D., *Chairman*

Woman's Auxiliary . . . .

New WASAMA President-Elect Hails from Virginia

. . . The twelfth annual convention of the Woman's Auxiliary to the Student American Medical Association was held in Chicago, Illinois, March 29 to April 2. The theme was a very special one to us because it was taken from Mrs. Daniel M. Anderson's "Package Deal" theme, which was used at the workshop in 1967. Mrs. James Rothermel, Midge, immediate Past President of WA/SAMA, had been a guest at that workshop and decided that very day to use this idea at a later date.

The high point of the convention for Virginians was the election of the Sally Tompkins Chapter President, Mrs. G. Edward Kappler (Robin) as the new National President-Elect. This is quite a feather in the cap of Virginia WA/SAMA and WA/AMA. Most sincere congratulations to Robin and good wishes; although it seems that WA/SAMA should be congratulated for they are indeed the fortunate ones.

Mrs. Edward L. Lilly (Linda) the new WA/SAMA President in Virginia, and Mrs. Frederick T. Horton (Ginger) also attended the convention and brought back many ideas to put into action this coming year.

Chicago—To Be Scene of AMA Auxiliary's 46th Annual Convention

. . . More than 2,000 members are expected to convene in New York City for the 46th annual convention. Headquarters for the July 13-17 meeting will be the Waldorf-Astoria Hotel.

Features of the meeting include speakers on safety, violence, and health care; presentation of the American Medical Association Education and Research Foundation awards; and a "Show and Tell".

On Saturday, July 12, the Board of Directors will meet at 9:00 a.m. in the Jansen Salon at the Waldorf. Auxiliary registration and hospitality room will officially open at 11:00 a.m. on Sunday, July 13, and will close on Wednesday at 1:00 p.m.

The Auxiliary will sponsor a reception honoring the president, Mrs. C. C. Long, Ozark, Ark., and president-elect, Mrs. John M. Chenault, Decatur, Ala., from 5:00 to 7:00 p.m. on Sunday in the Empire Room (lobby floor).

The convention will formally open at 9:00 a.m., Monday, July 14. Ethel J. Alpenfels, Ph.D., New York University anthropology professor, will deliver the keynote address, "The Anthropologist Looks at Health in a Changing Culture".

On Tuesday morning, James Ray Adams, Ph.D., associate director for safety research, Continental Research Institute, will discuss "Bending Elbows and Bending Twigs".

Following Dr. Adams' presentation, state and county Auxiliaries are invited to set up exhibits demonstrating outstanding projects for a "Show and Tell". Also, films or slides developed or sponsored by Auxiliaries will be shown.

Ann Landers, nationally syndicated columnist and member of the AMA's Advisory Committee on Health Care of the American People, will speak at the Tuesday luncheon honoring national past presidents, officers, directors and committee chairmen. Miss Landers will discuss "Is There a Doctor in the House?"

The Wednesday morning session includes reports of officers, installation of officers and directors, and the presentation of president's pin and gavel. The postconvention planning session will be held Wednesday afternoon, at which Ernest B. Howard, M.D., AMA's Executive Vice President, will present an "AMA Round-Up", pinpointing recent activities of the AMA.

Following Dr. Howard's presentation, there will be a discussion and evaluation of the role of package programs as health education aids. The meeting will close with a film on drug abuse, "Escape to Nowhere".

On Thursday morning, Mrs. Chenault will meet with the 1969-70 Board of Directors. In the afternoon there will be a meeting of the national workshop travel team.

* * * *

In September of 1968, the Hampton Health Department asked the Woman's Auxiliary to the Hampton Medical Society to assist in a pilot project of audiometric testing on kindergarten pupils. These schools consist largely of children from low income families, and therefore many cases, which would otherwise go undetected, are treated and permanent damage is averted.

This project enables them to assist the child labelled a *slow learner* who is *"lost"* academically until the hearing defect is eventually discovered. Out of five hundred school children tested, seventy required further testing, and from this number several are now under the care of a local ENT physician. Two children are receiving hearing aids.

Members of the Hampton Auxiliary find this a most exciting, challenging and very satisfying project which provides a worthwhile service to the community.

* * * *

Inauguration Day 1969 was the opening of a new venture for the Woman's Auxiliary to the Fairfax County Medical Society by acting as the intermediary between the community worker who recommends those requiring care for the numerous medically indigent of the county. A dozen auxiliary members alternate their days to receive phone calls and arrange for appointments with the appropriate physician. The members involved have given unselfishly of their time, have shown great resourcefulness and a real spirit of dedication in this work. The program is called MEDCAP, Medical Community Action Program.

Let's Reminisce!

Treatment of Pneumonia.

Dr. C. B. Leitner, of Flora, Ala., (*Atlanta Med. and Surg. Jour.*, Jan., 1888), gives the following treatment: One-half ounce of ground senega root, ten or twelve jaborandi beans, twenty-four ounces of water, to *simmer* down to sixteen. If below this, add hot water to make sixteen ounces. Then add nitrate of potash drams ij, and quinine, drams j. Dose—ounces ss every two hours until sweating is produced. Patients' bowels must be moved with a mercurial, or some other cathartic. Counter irritation by cupping and blistering. If the urine is scanty, buchu tea is used with the expectorant. Opium to produce sleep. Acute pain in the pleura must be watched. When the skin is cool and pleasant whisky or brandy is used. Be controlled by the use of the stethoscope. No arterial sedative is used unless the skin is very dry and the temperature much elevated, and then aconite—no veratrum—is the agent employed. (Reprinted from Virginia Medical Monthly, February 1888)

Correspondence . . . .

Abortions

To the Editor:

As much as I respect Dr. C. V. Cimmino's knowledge and ability, I must differ sharply with him on his opinion and evaluation of therapeutic abortion. (Virginia Medical Monthly, Vol. 96, April 1969, Pages 236-237.)

I agree wholeheartedly that our laws should permit such in cases of legally established rape and incest, and where there is strong likelihood of fetal abnormality or maternal mental or physical damage.

But I do not agree that a physician should be left to work out the question with each patient without some regulation. This places too great a burden on him. He would have to base his decision on too many variables and too few rules, and this is too much to ask. He would have to integrate:

1) The "merits" of the case;

(a) The patient's persuasiveness;

(b) Pressures by her husband;

(c) Phone calls and visits by her friends, relatives and perhaps her spiritual advisor, and other experts;

(d) Economic factors, ad nauseam (his and hers!);

(e) His evaluation of the patient's emotional status;

(f) His evaluation of her physical status;

(g) Consultant's opinions, if he sought any;

2) His own standards for evaluating all the above;

3) The then current local trends—legal, medical, and philosophical;

4) Local hospital rules, if any (unless he made the operation an office procedure);

5) His conscience;

6) His religious background, if any;

7) "Ethical standards" set up by his medical societies, if any, and if he stuck to them;

8) The feelings of his family, friends and associates;

9) Et cetera. (The above is meant to be indicative, not exclusive.)

I fear that we will be exploited by women to "bail them out" of problems derived from their own irresponsibility. I fear that sexual carelessness would be enhanced by local convenience of therapeutic abortion. I fear that it would often become a purely contraceptive device. I fear that a society hell-bent on socialism would be further encouraged in its belief that the individual has a responsibility to himself only as it relates to everyone else, and that society must make up for his mistakes and shortcomings.

Society is healthy only when its component parts are, and the one we have is diseased. It is not ready for further sexual revolution. It is fragmented, and it is breaking up even more. It is searching. And it will find its answer in Christianity but it doesn't know it yet.

Our old rules were set up for good reasons. We may question their validity but not the sincerity of the rule makers. This sincerity should make us stop, back up, and take another look.

Our ancestral guide-line writers may not have been infallible, but it is more important to be a good ancestor than to have one. Where will it stop, if we teach our children that to destroy an unborn life is a matter of personal discretion?

T. Stacy Lloyd, Jr., M.D.

1701 Fall Hill Avenue
Fredericksburg, Virginia 22401
April 15, 1969

Editorial . . .

Virginia Medical Care—Fancy and Fact

THE FOLLOWING ITEM appeared on page one of the April 28 issue of the *AMA News*:

> "Medical Care for the poor in Virginia 'borders on a domestic scandal', Virginia Council on Human Relations testifies before a task force on U.S. House Education and Labor Committee. Prospects for future change are 'slim to poor', council charges".

Domestic scandals are always of interest and one dealing with medical care in Virginia is especially so to the Virginia Medical Monthly. On April 14 two speakers from the Virginia Council on Human Relations testified before the House committee. They spoke chiefly of political, racial, dietary and medical matters. Only the last item—medical care—was mentioned in the *AMA News*, so this alone will be dealt with in the journal. Emphasis was placed on infant mortality, and deaths following accidents and pneumonia. Fortunately, factual data are available concerning these conditions. So in the words of the late Al Smith, "let's look at the record".

The resident infant deaths per 1,000 live births in Virginia have closely paralleled those in the United States generally for a number of years. The deaths for white infants have virtually coincided with the nation-wide figures during the past few years. The most recent figures available per 1,000 live births were: 1964, 21.5 (US), 22.5 (Va); 1965, 21.5 (US), 22.0 (Va); 1966, 20.5 (US), 21.2 (Va); and 1967, 19.5 (US), 20.0 (Va).

Comparison of the non-white infant deaths per 1,000 live births were even closer, for the figures were in 1964, 42.0 (US) 43.8 (Va); 1965, 40.5 (US), 39.8 (Va); 1966, 38.0 (US), 37.4 (Va); and 1967, 36.0 (US), 37.6 (Va). It should be noted that for the years 1965 and 1966 Virginia's non-white rate fell below that of the United States. The white rate for Virginia has remained slightly above the U.S. rate but within 0.5 infant deaths per 1,000 live births during the years 1965 and 1967.

The most recent overall figures available indicate that the Virginia rate for 1967 (24.2) was slightly above the 22.4 infant deaths per 1,000 live births for the United States. The rates for the individual states ranged from 16.6 to 35.5 per 1,000 live births. Ten states and the District of Columbia registered rates greater than that of Virginia. The District and the states with higher rates doubtless had a substantial number of non-whites.

Data released from the National Center for Health Statistics indicate

that accidents of all types were 56.0 deaths per 100,000 in Virginia and 57.2 for the United States in 1967. Influenza and pneumonia caused 26.9 deaths in Virginia per 100,000 and 28.8 for the country at large. When broken down to white and non-white, the death rates of non-whites were higher in both categories in Virginia as well as in the nation generally. Further data from the same source (NCHS) indicate the final 1967 total death rate for the United States was 9.4 per 1,000 whereas Virginia's total death rate for the same period was 8.1. There were only seven other states with lower death rates than Virginia.

If the patient reader has followed these statistics to this point, it probably is not necessary to pursue these comparisons further, although more are available. Certainly the data already furnished from national and state sources do not bear out the contention that "Medical care for the poor in Virginia borders on a domestic scandal." Adequate medical care is available, but it is not always utilized.

AMA News please copy.

H.J.W.

Famous Rides and Riders—Fact and Fiction

He ran a good race—he fought a good fight—he kept the faith—he finished his course—he merited a crown.

PART IV

ON 12/June 1781, in recognition of his valuable services to his country, the members of the Virginia legislature voted to present Jack Jouett, Jr., with an elegant sword and a pair of pistols. The pistols were presented in 1783 (contemplation of a gun control law was 185 years away) but the sword was not delivered until 1803. By that time Thomas Jefferson had been President of the United States for two years. Jack's ride was 22 years past and his age had reached 49.

The year following his famous ride, the Paul Revere of Virginia moved to what is now Mercer County, Kentucky, where he lived out his days.

He married Miss Sallie Robards, a sister of the first husband of Mrs. Andrew Jackson. Twelve children were born to this wedlock. Jack Jouett and Andrew Jackson became close friends and Jack often visited at the "Hermitage".

It would appear entirely within the bounds of reason to wonder if, in terms of importance to world history, the night ride of Jack Jouett has, in the register of rides, been equalled. Bravely he forged ahead for 45 miles through a hazardous wilderness because he was motivated by the indomitable and insurmountable power of an idea—the idea of liberty and freedom for all. Paul Revere's ride was 15 miles in distance, over good roads, and by reason of his warning, it is alleged, the Massachusetts

farmers were prepared to meet the British with "ball for ball from behind each fence and farmyard wall". The honor for services rendered by this patriot was abundantly merited. But when viewed either from the standpoint of difficulty of accomplishment or of the purpose served, the feat of Jack Jouett would, by all odds, appear to eclipse that of Paul Revere. That the distance ridden by Jack Jouett was three times that covered by Paul Revere is an historical fact. That the terrain traversed by Jouett was infinitely more difficult than that over which Paul Revere rode cannot be gainsaid.

It was the achievement of the two riders from the standpoint of the stakes at issue that would appear to pose the only debatable question. It is by no means certain that the New England farmers would not have been aroused by one means or circumstance or another and would have given as good account of themselves if Paul Revere had remained in Boston. Looking not only at the probability, but to the virtual certainty of what would have happened, had it not been for Jack Jouett, a comparison of the two rides becomes all the more uneven.

Focusing, therefore, upon an estimate of the worthiness of their missions—the value of the prize in the interest of which each man rode—it seems obvious that both potentially and actually the weight of the claim, if it should be raised, would be overwhelmingly in favor of Jack Jouett.

The State of Virginia gave the Revolution its tongue, its pen and its sword. It gave the Constitution of the United States its father. To the Western Hemisphere it gave the author of a document of monumental importance to incalculable generations. Virginia gave to the United States Supreme Court its most illustrious Chief Justice. To the Nation it has given eight Presidents and, throughout a succession of wars and interims of peace, it has given countless immortals to the skies.

Now, included in that band of statesmen whose capture and almost certain execution, under decree of the Crown of England, was foiled by Jouett, there were Thomas Jefferson, the so-called "Pen" of the Revolution—the most constructive genius, certainly, in colonial America—and Patrick Henry, the so-called "Tongue", whose declarations and asseverations will cause a surge of patriotism in the breasts of the citizens of our Nation so long as human nature remains as it has remained throughout all history; to say nothing of such noteworthy antecedents as Benjamin Harrison, Richard Henry Lee and Thomas Nelson.

The salvation of the two first mentioned profoundly worthy and consequential Americans would have been sufficient to mark Jack Jouett's ride as a ne plus ultra incident in the annals of our country. But we can go much further still. Had it not been for Thomas Jefferson, the names of Madison, the father of the Constitution and the Nation's fourth President, and of Monroe, the author of the Monroe Doctrine and the Nation's fifth President, could have been left in limbo, for they both were proteges of Mr. Jefferson.

One can quite logically go so far as to question whether John Marshall would have come to be regarded as the barrister par excellence in Virginia if Jefferson had not designated him to defend Aaron Burr in his trial anent his duel with Alexander Hamilton.

Jefferson had drafted the Declaration of Independence five years previously, but certainly, if he had been captured by Tarleton, he would never have been minister to France (1784-1789), Secretary of State (1790-1791), Vice President under John Adams or third President of the United States.

In a family cemetery on Monticello Mountain, a short distance from the residence and amidst the simplest of nature's surroundings, the visitor today may read the self-written epitaph of the most scholarly and accomplished of all of the Nation's Chief Magistrates, whose mortal remains lie beneath a plain but impressively dignified granite monument there: "Here was buried Thomas Jefferson, author of the Declaration of American Independence, and statutes of Virginia for religious freedom, and father of the University of Virginia."

But for Jack Jouett, it is exceedingly unlikely, to say the least, that that epitaph could ever have been written by Thomas Jefferson, and moreover, posterity would have been denied the privilege of marvelling that the most remarkable feature of the epitaph does not consist in what it says, but rather in what it does not say. No mention is made by Jefferson that he was ever Governor of his native state, that he was Minister to France, that he was Secretary of State, that he was, for a time, Vice President, nor that he was twice President of the United States. Thomas Jefferson estimated success not in terms of what he had attained or received for himself, but rather in terms of what he had obtained for or given to others.

Such was the prize, the character, the quality, the stature of the man whose capture and highly probable destruction by an enemy force Jack Jouett was directly and solely instrumental in thwarting.

In the year 1832, at the age of 78, Jack Jouett died in Bath County, Kentucky, and is the relic of an unmarked and unknown grave. Save by a very few of his fellow Virginians, his significant and perilous journey remains unheralded and unsung. No place has been designated for him in the Pantheon of American heroes.

Jack Jouett's name does not appear in the Encyclopaedia Britannica, while volume 19 of that classic compendium of information not only contains 39 lines devoted to Paul Revere, but a picture of the house in which he lived in Boston.

This most highly regarded of all encyclopaedias (volume 12) contains 23 lines devoted to Jesse James who, along with his brother, Frank—older by five years than Jesse—for a period of 15 years, i.e., between 1867 and 1882, ranked among the greatest riders of all time. The kind of rides

at which the James brothers were masters, however, has elicited a furore scribendi only on the part of dime novel authors.

In a recently published book by Guy Friddell—a Georgian—entitled, *What Is It About Virginia,* credit is given J. C. Moomaw for a spectacular overnight ride in 1881, from Roanoke—then known as Big Lick—to Lexington—a distance of 46 miles, to persuade officials of the Norfolk and Western Railroad to make Big Lick the terminal headquarters for their railroad. But for Mr. Friddell, I should never have heard of J. C. Moomaw.

(Incidentally, all Virginians in particular, and all others interested in this "Mona Lisa" of States—and that must include just about everybody —should read Mr. Friddel's treatise on what makes the "stet" so "gret".)

This review devoted to rides and riders would be deficient if it failed to include mention, at least, of two twentieth century riders whose exploits were heralded as sensational upon a number of counts. Reference is made to the "Abernathy Kids"—Louie (nicknamed Bud), aged 10, and Temple, aged six. The year was 1910 when, in two months, they rode alone on horseback through blizzards, rainstorms and mud from Tesca, Oklahoma, to New York City to meet former President Theodore Roosevelt upon his return from a big-game hunt in Africa. Enroute they stopped by Washington, D. C., to visit President Taft and his cabinet in the White House. In the House of Representatives they were introduced from the rostrum by the Speaker, doughty old Joe Cannon.

Their journey from New York back to Oklahoma was, if anything, more amazing than their eastbound ride in that it was made in a chain-driven, one cylinder, 10 horsepower Brush automobile that had been presented to them by the Brush Automobile Company. Slightly over three weeks were taken for Bud and Temple Abernathy to drive from New York to Oklahoma City, over such roads as existed in 1910.

In 1911, these boys, then 11 and seven, agreed to attempt to ride on horseback from the Atlantic to the Pacific in 60 days for a prize of $10,000. They rode 3,619 miles, but 62 days were required, so they lost the prize.

In conclusion, apropos the limbo in which Jack Jouett, Jr., appears to have been left, may it suffice to say it is possibly not too late. Maybe, in the freshness of some not far distant tomorrow, some bard, borne upon the wings of his Pegasus, will become imbued with sufficient inspiration to impel him to immortalize this man in a manner commensurate with his dues; and thus will his ride from Cuckoo Tavern to Monticello and Charlottesville come more widely to be recognized as one of the important and colorful exploits of the American Revolution.

Finis

H. Lamont Pugh, M.D.

News . . . .

Calendar of Events

Neurology and the Internist—Sponsored by the American College of Physicians—Hotel Robert E. Lee—Winston-Salem, North Carolina—June 11-14, 1969.

Flying Physicians Association—Annual Meeting—Lake Placid Club—Essex County, New York—June 15-20, 1969.

Seaboard Medical Association—Annual Convention—Carolinian Hotel—Nags Head, North Carolina—June 19-22, 1969.

American Medical Association—Annual Convention—New York—July 13-17, 1969.

Medical Aspects of Sports—Sponsored jointly by The Medical Society of Virginia and Virginia High School League—VPI Coliseum—Blacksburg—July 27, 1969.

Whitman Memorial Lectures—Sponsored by Lewis-Gale Medical Foundation—Subject will be "What's New at Johns Hopkins University in 1969"—Hotel Roanoke—Roanoke—September 11, 1969.

National Conference on Physicians and Schools—Pick-Congress Hotel—Chicago—October 8-11, 1969.

Annual Seminar—Sponsored by Bluefield Sanitarium, Stevens Clinic and Clinch Valley Clinic—Bluefield Country Club—October 16, 1969.

The Medical Society of Virginia—Annual Meeting—Virginia Beach—October 16-19, 1969.

Southern Medical Association—Annual Meeting—Atlanta, Georgia—November 10-13, 1969.

American Medical Association—Clinical Convention—Denver—November 30-December 3, 1969.

New Members.

The following members have been received into The Medical Society of Virginia during the month of April:

William Michael Bolt, M.D., Norfolk
Alan S. Cameron, M.D., Vienna
Carlos Alfredo Carrega, M.D., Falls Church
Irvin Walters Cavedo, Jr., M.D., South Hill
Lewis Robert Clough, M.D., Roanoke
William George Dunbar, M.D., Hampton
William John Geary, M.D., Vienna
Robert James Gillanders, M.D., Falls Church
Herbert Stanley Colomb, M.D., Washington, D. C.
Robertson Batson Hall, M.D., Winchester
David Samuel Hathaway, M.D., Vienna
Hannibal Eldredge Howell, M.D., Hampton
Jong-In Kim, M.D., Norfolk
Gerald Jay Ruth, M.D., Roanoke
Peter Ferdinand Schatzki, M.D., Richmond

Anderson Thomas Scott, Sr., M.D., Hampton
William Henderson Smith, Jr., M.D., Hampton
George Hampton Wall, M.D., Roanoke
Harry Stephen Wise, M.D., Norfolk

Loudoun County Medical Society.

New officers for this society are: president, Dr. H. M. Jackson; vice-president, Dr. E. N. Kotselas; and secretary-treasurer, Dr. Robert A. Orr. All officers are from Leesburg.

James River Medical Society.

Dr. William A. Pennington, Buckingham, is the new president of this Society. Dr. J. H. Yeatman, Fork Union, continues as secretary-treasurer.

Dr. William E. Apperson,

Director of the bureau of tuberculosis control, State Health Department, Richmond, has been presented the Douglas Southall Freeman Award of the Virginia Tuberculosis and Respiratory Disease Association.

Dr. Henderson Retires.

Dr. W. Carey Henderson, one of the two original physicians who opened the Northampton-Accomack Memorial Hospital, Nassawadox, retired from active practice on January 1st. The Board of Trustees of the hospital has presented Dr. Henderson a silver tray, recognizing his forty years contribution to the hospital as well as to the people of the Eastern Shore.

Dr. Thomas L. Gorsuch,

Waynesboro, has been named chairman of the Committee on Governmental Legislation of the American Society of Internal Medicine. He also serves as secretary-treasurer of the Virginia Society of Internal Medicine.

Dr. Edward M. Holmes, Jr.,

Has been appointed Director of the Research and Training Center, University of Alabama Medical Center, Birmingham. He has also been appointed professor in public health and epidemiology. Dr. Holmes was recently medical consultant to Social and Rehabilitation Service, Department of Health, Education and Welfare, Atlanta, Georgia.

Dr. Bickers Honored.

Dr. William M. Bickers, chairman and professor of the Department of Obstetrics and Gynecology of the American University of Beirut, has been awarded the Carmichael Award for presenting the Annual Carmichael Lecture before the Royal College of Surgeons of Dublin, Ireland, in March. The award is given to an individual who has made an outstanding contribution to medical education anywhere in the world.

Dr. Bickers still maintains his office in Richmond, directed by his associate. He returns to Richmond each summer.

Annual Medical Seminar.

The first annual medical seminar presented by the faculty of the Medical College of Virginia under the auspices of the Continuing Education Department, in cooperation with the Education Committee of the Virginia Academy of General Practice, was held on March 27-29, at the Medical College of Virginia. There were eighty-two physicians from all areas of the State present for the entire program. The apparent success, as indicated by the reaction of the registrants, suggests that this will be an annual seminar with the format of the future programs being somewhat the same.

Physicians Wanted.

Northern Virginia—D. C. Metro area. Food and Drug Administration, Bureau of Medicine, is seeking physicians to review

and evaluate scientific and clinical data relating to safety and efficacy of drugs. Starting salary $19,771 with assured periodic increases (the proposed pay increase would raise the starting salary to approximately $21,600 in July 1969 if approved); professional development programs; equal opportunity; U. S. citizenship required. Located in shopping complex. Major relocation expenses reimbursed. Submit brief resume of qualifications or for complete information submit inquiry to: J. J. Jennings, M.D., Acting Deputy Director, Code A-17, Bureau of Medicine, P. O. Box 2000, Eads Station, Arlington, Virginia 22202. (*Adv.*)

Wanted

Full time staff physician for Student Health Service at Virginia Polytechnic Institute, Blacksburg. For further information, write or call Emory R. Irvin, M.D., Blacksburg, Virginia 24060. Phone 552-6444. (*Adv.*)

Director of Medical Education,

Internist under 50 preferred. Virginia Metropolitan area, large general hospital, medical center, active clinics, internships and residencies, 40 housestaff. Salary open. Write #160, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituary . . . .

Dr. Philip Jacobson,

Petersburg, died April 9 at the age of seventy-one. He received his medical degree from the University of Maryland in 1924 and had practice in Petersburg for 41 years. Dr. Jacobson wrote more than 50 articles on his independent research projects and these appeared in medical journals throughout the world. He considered his most important contribution was his theory on the origin and treatment of spontaneous bleeding. In December, Dr. Jacobson was one of three persons cited by the Petersburg General Hospital for their community contribution as a "Distinguished Citizen". He was a member of The Medical Society of Virginia, having joined in 1928.

His wife and a brother survive him.

Dr. Frank Ryder Trigg,

Norfolk, died April 18, having been in ill health for some years. He was eighty-six years of age and received his medical degree from Boston University in 1904. Dr. Trigg had practiced in Norfolk for more than fifty years. He had been a member of The Medical Society of Virginia for fourteen years.

His wife, two brothers and two sisters survive him.

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OFTEN... HER LOWER G. I. TRACT



Psycho-abdominal Distress: Frequently Female

Women aged 15 to 45 appear to be more prone than men to bloating, cramping pain of stress-related intestinal disturbances such as irritable or spastic colon.[1,2]

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In the experience of many physicians, women are more likely to reappear time after time with repeated complaints of lower G.I. distress.

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Often needed is therapy adequate to control both the somatic and the emotional components of psycho-abdominal complaints.

Definitive Dual Therapy

'Milpath' contains a proven synthetic anticholinergic useful for relieving hypermotility, spasm, and hypersecretion of the gastrointestinal tract.

In addition, 'Milpath' provides a time-tested tranquilizer for mild but effective anti-anxiety action.

With Flexible Dosage

- 'Milpath'-400 (meprobamate 400 mg. + tridihexethyl chloride 25 mg.) Usual adult dose: 1 tablet *t.i.d.* and 2 at bedtime.
- **When less tranquilization is required: 'Milpath'-200 (meprobamate 200 mg. + tridihexethyl chloride 25 mg.)**

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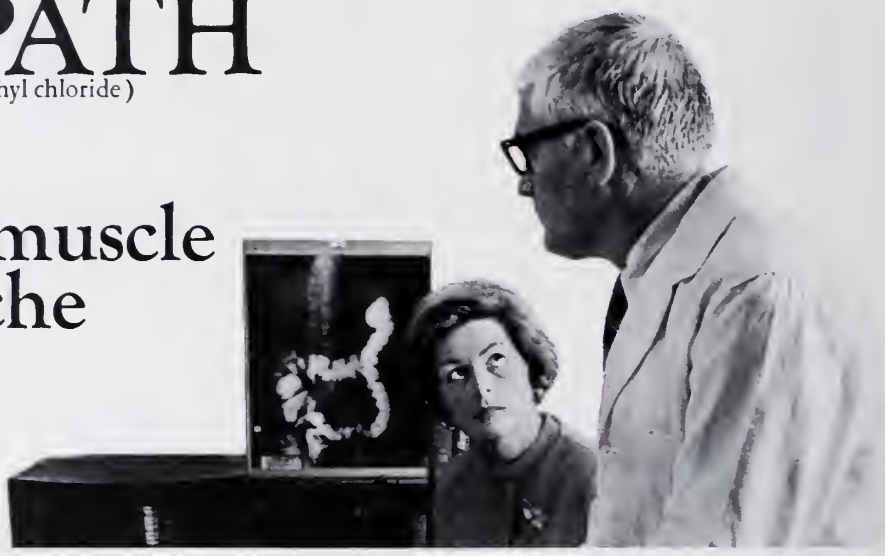
relaxes smooth muscle and psyche

Please see the following page for brief summary of prescribing information.

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(meprobamate + tridihexethyl chloride)

Relaxes smooth muscle and psyche



Usual Adult Dosage

One 'Milpath'-400 tablet, three times a day at mealtimes, and two at bedtime. For greater anticholinergic effect, two 'Milpath'-200 tablets, three times a day at mealtimes and two at bedtime. Doses of meprobamate above 2400 mg. daily not recommended.

Indications

Useful in organic and functional disorders with hypersecretion and hypermotility of G I. tract, especially when accompanied by anxiety, neurosis, or tension states. Should be used as an adjunct to all other therapeutic measures.

Contraindications

Tridihexethyl chloride: Urinary bladder-neck obstructions, e.g., prostatic obstruction due to hypertrophy; pyloric obstructions because of reduced motility and tonus: organic cardiospasm (megaesophagus); glaucoma; possibly in stenosing gastric or duodenal ulcers with significant gastric retention.

Meprobamate: Previous allergic or idiosyncratic reactions to meprobamate.

Precautions

Tridihexethyl chloride: Use cautiously in elderly males (possible prostatic hypertrophy).

Meprobamate: Carefully supervise dose and amounts prescribed. Consider possible dependence or habituation (reported occasionally after excessive use), particularly in severe psychoneurotics, alcoholics, ex-addicts. Withdraw gradually (one or two weeks) after excessive dosage for weeks or months to avoid recurrence of pre-existing symptoms (e.g., anxiety, anorexia, insomnia) or withdrawal reactions (e.g., vomiting, ataxia, tremors, muscle twitching; rarely, epileptiform seizures, more likely in those with CNS damage or latent convulsive disorders). If drowsiness or visual disturbance occurs, reduce dose and advise against activity requiring alertness (driving, machinery operation). Effects of excess alcohol may be increased. Grand mal seizures possible in persons with both petit and grand mal. Prescribe cautiously in small amounts to patients with suicidal tendencies. Prescribe with caution to patients with known sensitivity to compounds of similar chemical structure, e.g., carisoprodol.

Side Effects

The following side effects of components may occur with 'Milpath'.

Tridihexethyl chloride: Severe effects rare on recommended dosage. Anticholinergic effects: dry mouth (fairly frequent at oral doses of 100 mg.), constipation or "bloated" feeling. Possible: tachycardia, dilation of pupils, increased ocular tension, weakness, nausea, vomiting, headache, drowsiness, urinary hesitancy or retention, dizziness.

Meprobamate: Drowsiness, sometimes with ataxia, usually controlled by decreasing dosage, occasionally with aid of central stimulants (e.g., amphetamine). Rarely, allergic or idiosyncratic reactions (usually after one to four doses); in mild form: itchy, urticarial or erythematous, maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever, transient leukopenia, and one fatal bullous dermatitis (after meprobamate and prednisolone) reported. More severe, very rare hypersensitivity: fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (one fatal), anuria, anaphylaxis, stomatitis and proctitis. Treat symptomatically (e.g., epinephrine, antihistamines, possibly hydrocortisone); stop and do not restart the drug. Isolated agranulocytosis, thrombocytopenic purpura, one fatal aplastic anemia reported, but only in presence of known toxic drugs, porphyric symptoms reported but relationship not established. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation reported by one observer. Fixed drug eruption with meprobamate and cross reaction to carisoprodol reported.

Suicidal attempts may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse, and death. Excessive dosage has led rapidly to sleep, then reduction of vital signs to basal levels. Empty stomach, and if respiration becomes very shallow and slow, cautiously give CNS stimulants (e.g., caffeine, pentylenetetrazol, amphetamine); also pressor amines if indicated.

Supplied

In two strengths:

'Milpath'-400: Yellow, scored tablets.

'Milpath'-200: Yellow, coated tablets.

Before prescribing, consult package circular.

References

1. Harrison, T. R., et al.: Principles of Internal Medicine, Fifth Edition, New York, The Blakiston Division, McGraw-Hill Book Company, 1966, p. 1019. 2. Bockus, H. L.: Gastroenterology, Second Edition, Philadelphia & London, W. B. Saunders Company, 1964, Vol. II, p. 729 et seq.

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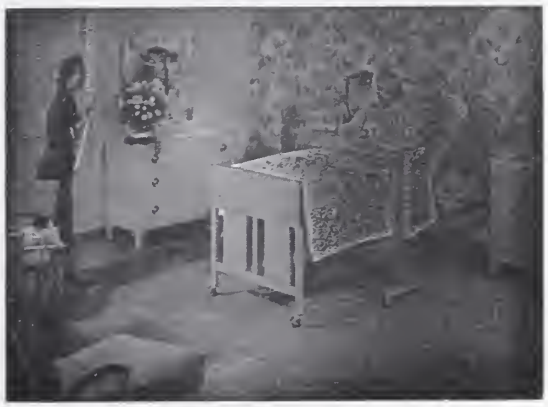
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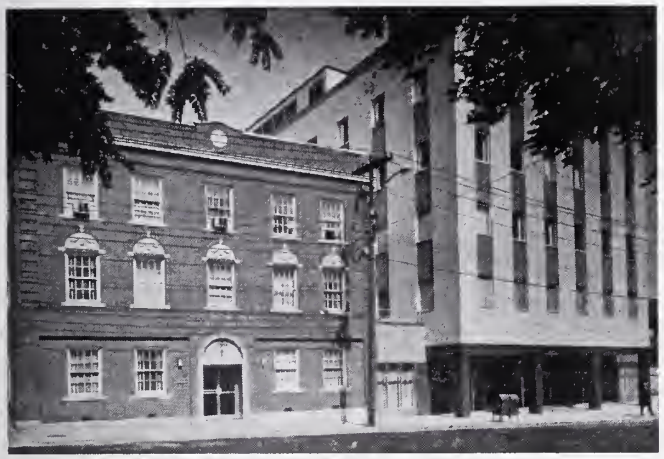
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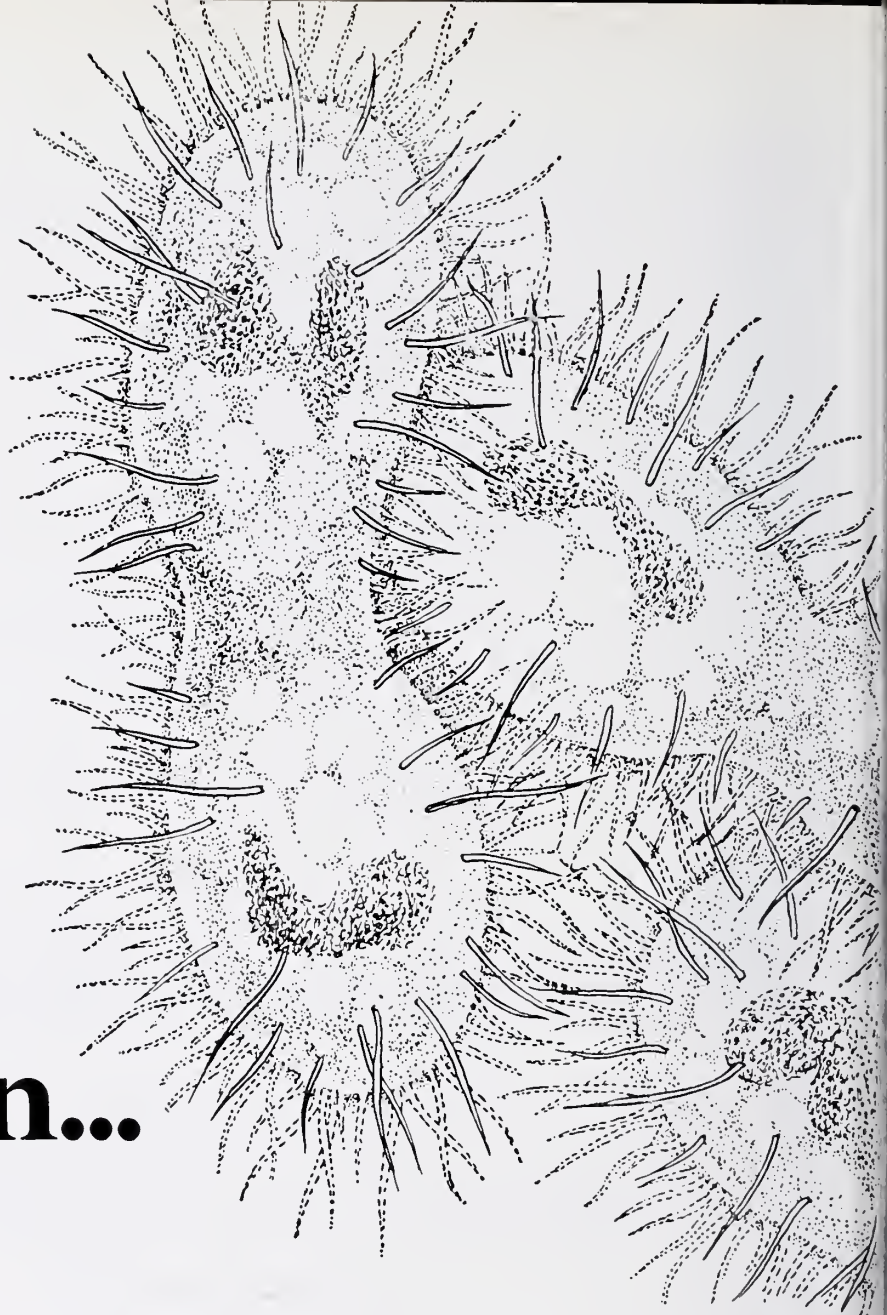
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References: 1. Vernier, R. L., in Patient Care Feature: *Patient Care*, *1*:20 (Feb.) 1967. **2.** Beeson, P. B.: "The Infectious Diseases," in Beeson, P. B., and McDermott, W. (eds.): *Cecil-Loeb Textbook of Medicine*, ed. 12, Philadelphia, W. B. Saunders Company, 1967, p. 230.

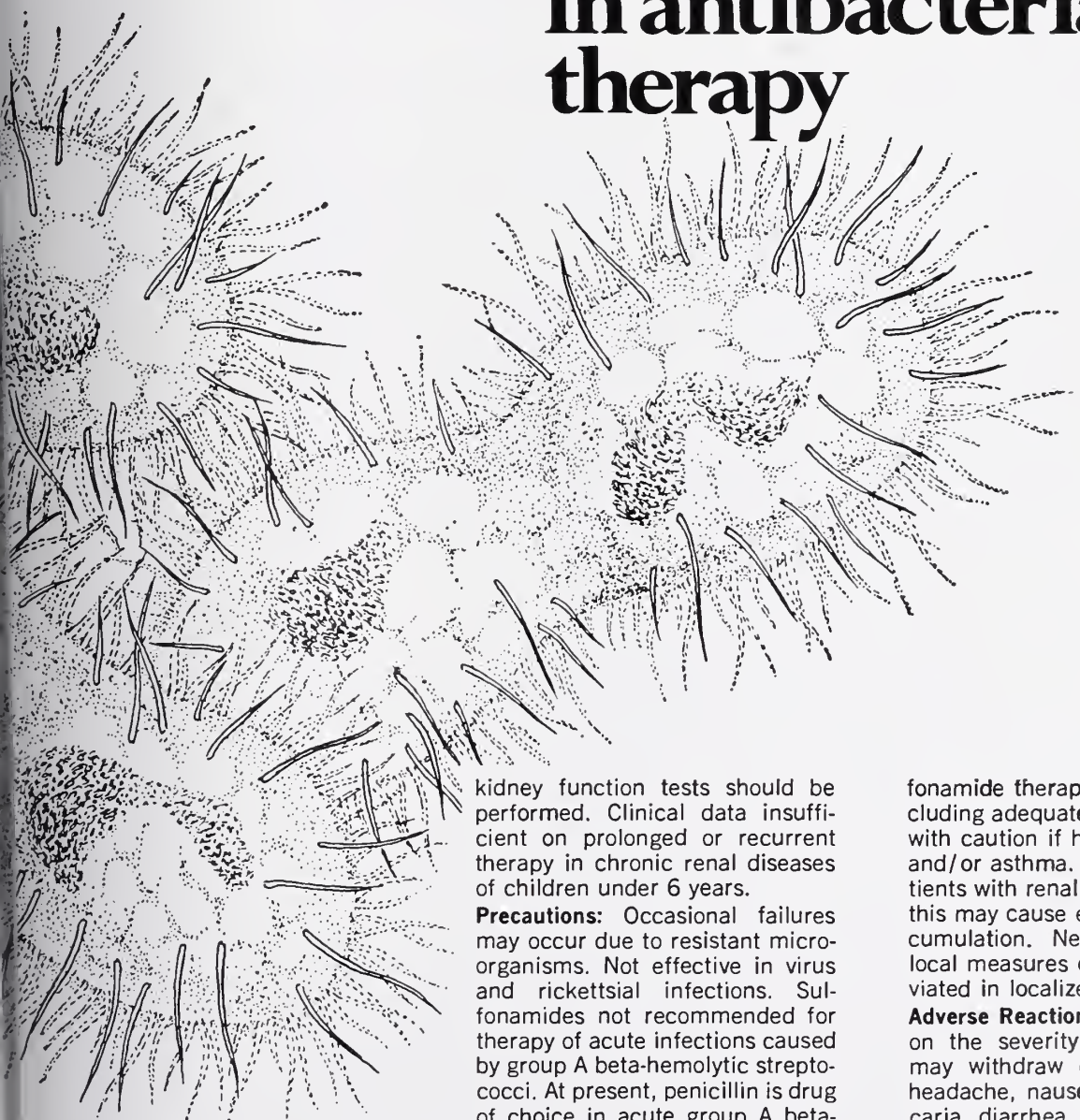
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Indications: Acute and chronic urinary tract, respiratory and soft tissue infections due to susceptible microorganisms; prophylactically following diagnostic instrumental procedures on genitourinary tract.

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, or newborn infants during first 3 months of life.

Warnings: Use only after critical appraisal in patients with liver or renal damage, urinary obstruction or blood dyscrasias. Deaths reported from hypersensitivity reactions, Stevens-Johnson syndrome, agranulocytosis, aplastic anemia and other blood dyscrasias. In closely intermittent or prolonged therapy, blood counts and liver and

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Precautions: Occasional failures may occur due to resistant microorganisms. Not effective in virus and rickettsial infections. Sulfonamides not recommended for therapy of acute infections caused by group A beta-hemolytic streptococci. At present, penicillin is drug of choice in acute group A beta-hemolytic streptococcal infections; although Gantanol has produced favorable bacteriologic conversion rates in this infection, data insufficient on long-term follow-up studies as to its effect on sequelae of rheumatic fever or acute glomerulonephritis. If other treatment cannot be used and Gantanol is employed in such infections, *important that therapy be continued in usual recommended dosage for at least 10 days*. Observe usual sulfonamide therapy precautions, including adequate fluid intake. Use with caution if history of allergies and/or asthma. Follow closely patients with renal impairment since this may cause excessive drug accumulation. Need for indicated local measures or surgery not obviated in localized infections.

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Mean peak pH*

Gelusil-M, mean peak pH 6.6 (range: 5.6-7.8).
Antacid A, mean peak pH 5.5 (range: 4.2-7.5).
Antacid B, mean peak pH 5.5 (range: 4.4-6.3).

Mean duration of buffering action above pH 3.5*

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Antacid B, 23.3 mean minutes (range: 5.9-50.0 minutes).

Mean duration of buffering action above pH 5.0*

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Antacid A, 10.1 mean minutes (range: 6.7-12.2 minutes).
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In speed of intragastric buffering action, Gelusil-M, Antacid A, and Antacid B were consistently rapid and not measurably different.

*References: Antacid studies, data on file, Warner-Chilcott Laboratories Division.

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Dosage: One to two teaspoonfuls (5 ml. to 10 ml.) between meals and at bedtime or whenever symptoms occur. Certain conditions, such as acute peptic ulcer, may require individualized dosage. If diarrhea occurs, reduce dosage or discontinue use.

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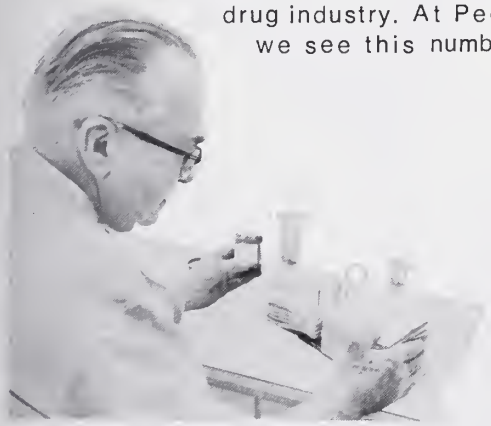
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Precautions: Although the incidence of drowsiness and atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. *Use in women of childbearing age:* In weighing potential benefits vs. risk in women of childbearing age, consider the fact that a review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum.
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Indications: For use in management of anxiety and tension occurring alone or as accompanying symptom complex to medical and surgical disorders and procedures. Though not a hypnotic, fosters normal sleep through antianxiety and related muscle-relaxant properties.

Contraindications: History of sensitivity to meprobamate.

Important Precautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use has been reported to result in dependence or habituation in susceptible persons, as alcoholics, ex-addicts, and other severe psychoneurotics. After prolonged excessive dosage, reduce dosage gradually to avoid possibly severe withdrawal reactions. Abrupt discontinuance of excessive doses has sometimes resulted in epileptiform seizures.

Warn patients of possible reduced alcohol tolerance, with resultant slowing of reaction time and impairment of judgment and coordination.

Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia, usually transient, have been reported on continuous administration.

Meprobamate may sometimes precipitate grand mal attacks in patients susceptible to both grand and petit mal. Extremely large doses can produce rhythmic fast activity in the cortical pattern. Impairment of accommodation and visual acuity has been reported rarely. After excessive dosage for weeks or months, withdraw gradually (1 or 2 weeks) to avoid recurrence of pretreatment symptoms (insomnia, severe anxiety, anorexia). Abrupt discontinuance of excessive doses has sometimes resulted in vomiting, ataxia, tremors, muscle twitching and epileptiform seizures. Prescribe very cautiously and in small amounts for patients with suicidal tendencies. Suicidal attempts have resulted in coma, shock, vasomotor and respiratory collapse and anuria. Excessive doses have resulted in prompt sleep; reduction of blood pressure, pulse and respiratory rates to basal levels; and occasionally hyperventilation. Treat with immediate gastric lavage and appropriate symptomatic therapy. (CNS stimulants and pressor amines as indicated.) Doses above 2400 mg./day are not recommended.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. (All tablets also available in REDIPAK® [strip pack], Wyeth.) Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

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(meprobamate)

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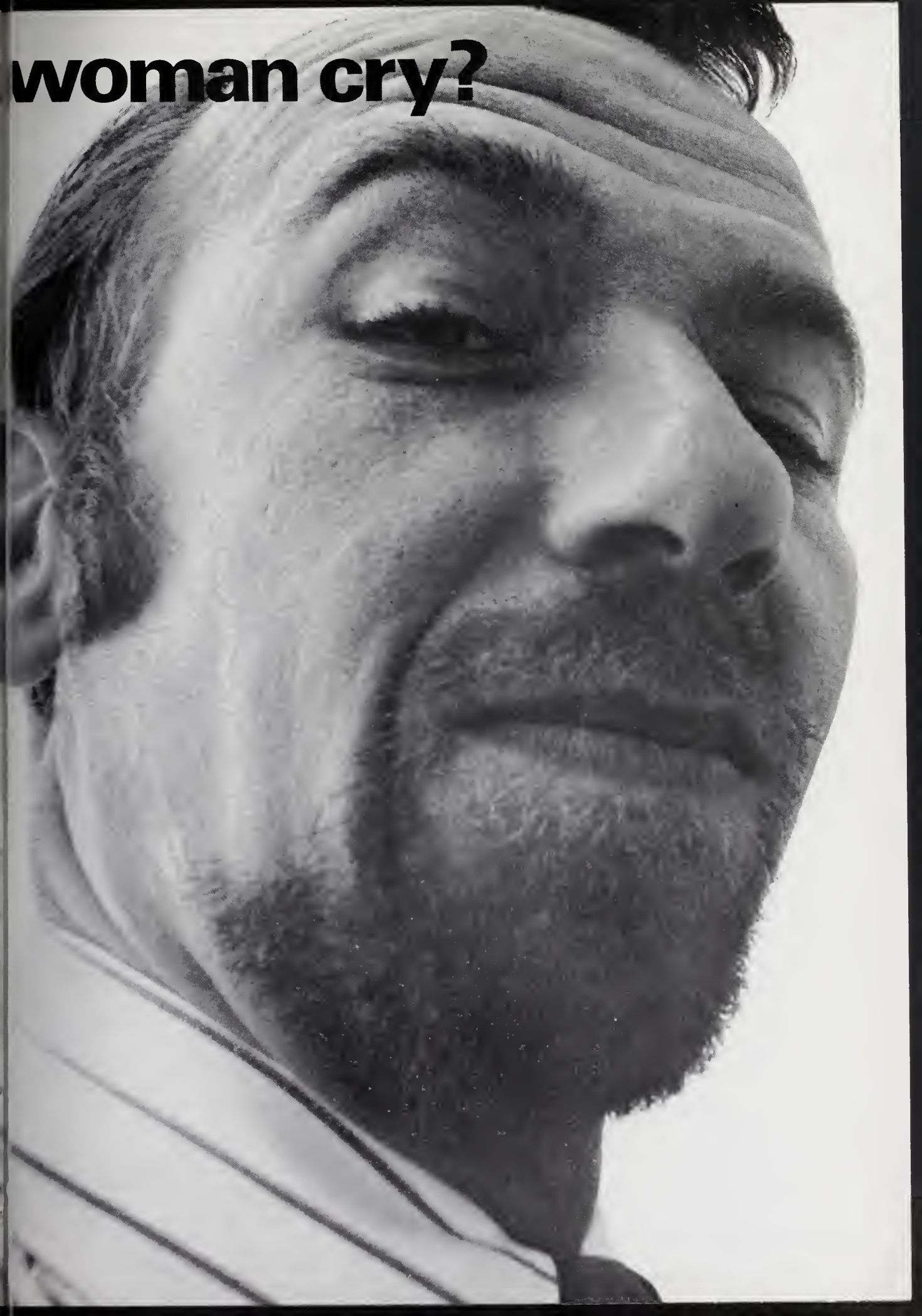
But before you prescribe Pertofrane, please see the full prescribing information and especially note Contraindications, Precautions, Warning, Adverse Reactions and Dosage. A brief summary of that information is included here.

Pertofrane® desipramine hydrochloride

Indications: For relief of depression.
Contraindications: Do not use drugs of the M.A.O.I. class with Pertofrane. Hyperpyretic crises or severe convulsive seizures may occur; potentiation of adverse effects can be serious or even fatal. When substituting this drug in patients receiving an M.A.O.I., allow an interval of at least 7 days. Initial dosage in such patients should be low and increases should be gradual and cautiously prescribed.
Warning: Activation of psychosis may occasionally be observed in schizophrenic patients. Do not use in patients under 12 years old, and do not use in women who are or may become pregnant unless the clinical situation warrants the potential risk.
Precautions: Careful supervision and protective measures for potentially suicidal patients are necessary. Discontinuation of therapy or adjunctive use of a sedative or tranquilizer may be necessary in the presence of increased anxiety or agitation, hypomania or manic excitement. However, phenothiazines may aggravate the condition. Atropine-like effects may be more pronounced (e.g. paralytic ileus) in susceptible patients and in those receiving anticholinergic drugs (including antiparkinsonism agents). Carefully observe patients with increased intraocular pressure. Prescribe cautiously in hyperthyroid patients and in those receiving thyroid medications. Cardiovascular complications (myocardial infarction and arrhythmias) are potential risks since they have occasionally occurred with imipramine, the parent compound. Desipramine may block the pharmacologic activity of guanethidine and related adrenergic neuron-blocking agents. Hypertensive episodes have been observed during surgery in patients on desipramine therapy.
Before prescribing the drug, the physician should be thoroughly familiar with prescribing information, with the literature, with all adverse reactions, with the diagnosis and management of depression, and with the relative merits of all measures for treating the condition.
Adverse Reactions: Dry mouth, constipation, disturbed visual accommodation, anorexia, perspiration, insomnia, drowsiness, dizziness, headache, nausea, epigastric distress, and skin rash (including photosensitization) may appear. Since orthostatic hypotension has occurred, carefully observe patients requiring concomitant vasodilating therapy, particularly during the initial phases. Other adverse reactions include tachycardia, changes in EEG patterns, tremor, falling, mild extrapyramidal activity, neuromuscular incoordination, epileptiform seizures. A confusional state (with such symptoms as hallucinations and disorientation) occurs occasionally and may require reduced dosage or discontinuance of therapy. Rarely, transient eosinophilia, slight elevation in transaminase levels, transient jaundice, or liver damage have occurred. If abnormalities occur in liver function tests, discontinue drug and investigate. Occasional hormonal effects, particularly decreased libido or impotence and instances of gynecomastia, galactorrhea and female breast enlargement have been observed. Urinary frequency or retention may occur. The drug should be discontinued if agranulocytosis, bone marrow depression, jaundice, thrombocytopenia, or purpura occur.
Dosage: 25 to 50 mg. t.i.d. The maximum daily dose is 200 mg. Continue maintenance dosage for at least 2 months after obtaining satisfactory response. Generally, elderly and adolescent patients should be given low doses.
Availability: Pink capsules of 25 mg. in bottles of 100 and 1000. (B) 46-530-E

For complete details, please see the prescribing information

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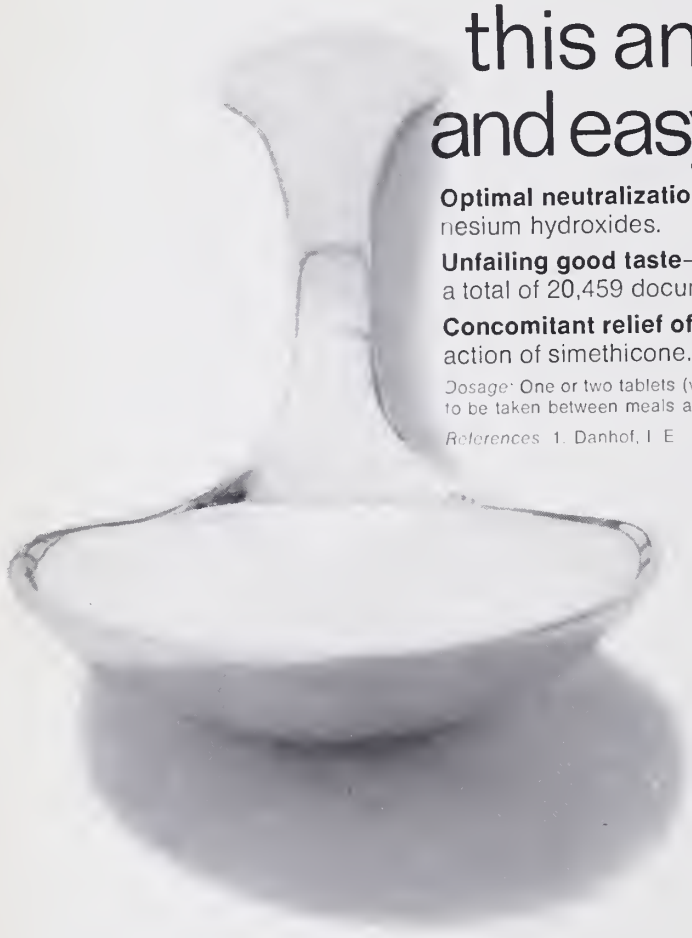
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Dosage: One or two tablets (well chewed or allowed to dissolve in the mouth); one or two teaspoonfuls to be taken between meals and at bedtime, or as directed by physician.

References 1. Danhof, I. E. Report on file 2. Hoon, J. R.: Arch. Surg. 93:467 (Sept.) 1966.

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Contraindications: Hypersensitivity to any component.

Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.

Precautions: Drowsiness, anorexia, slight gastric distress can occur. In excessive drowsiness, consider longer dosage intervals. Persons on full dosage should not operate vehicles. Nonsusceptible organisms may overgrow; treat superinfection appropriately. Treat beta-hemolytic streptococcal infections at least 10 days to help prevent rheumatic fever or acute glomerulonephritis. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity* reactions—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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JULY 1969

MEDICAL MONTHLY



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Warning: Although generally safer than the amphetamines, use with great caution in patients with severe hypertension or severe cardiovasculor disease. Da nat use during first trimester of pregnancy unless potentiol benefits outweigh potential risks.

Adverse Reactions: Rarely severe enough ta require discontinuation of therapy, unpleosont symptoms with diethylpropion hydrochloride hove been reported to occur in relatively low incidence.

As is choracteristic of sympathomimetic ogents, it may accasionally cause CNS effects such os insomnio, nervousness, dizziness, anxiety, and jitteriness. In cantrost, CNS depression has been reported. In o few epileptics an increase in canvulsive episades has been reparted.

Sympathomimetic *cardiavascular effects* reparted include ones such as tachycardia, precordiol pain, arrhythmia, palpitation, and increased blood pressure. One published report described T-wove changes in the ECG af a heolthy young male after ingestion af diethylprapian hydrochloride; this was an isalated experience, which has not been reparted by others.

Allergic phenamena reported include such canditians as rash, urticaria, ecchymasis, ond erythema.

Gastrointestinol effects such as diarrhea, canstipatian, nausea, vamiting, ond abdominol discomfort hove been reported.

Specific reparts on the hematopoietic system include two each of bone morrow depression, agronulocytosis, and leukopenia.

A voriety of miscellaneous adverse reactions have been reparted by physicians. These include complaints such os dry mouth, headache, dyspnea, menstruol upset, hoir loss, muscle pain, decreased libido, dysuria, ond polyuria.

Convenience of two dosage forms: TEPANIL Ten-tab tablets: One 75 mg. toblet doily, swollowed whole, in midmorning (10 o.m.); TEPANIL: One 25 mg. tablet three times daily, one hour before meols. If desired, an additional tablet moy be given in midevening to overcome night hunger. Use in children under 12 years of age is not recommended.

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(continuous release form)

(diethylpropion hydrochloride)

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Literature on indications and dosage available on request.

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References:

(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., 38:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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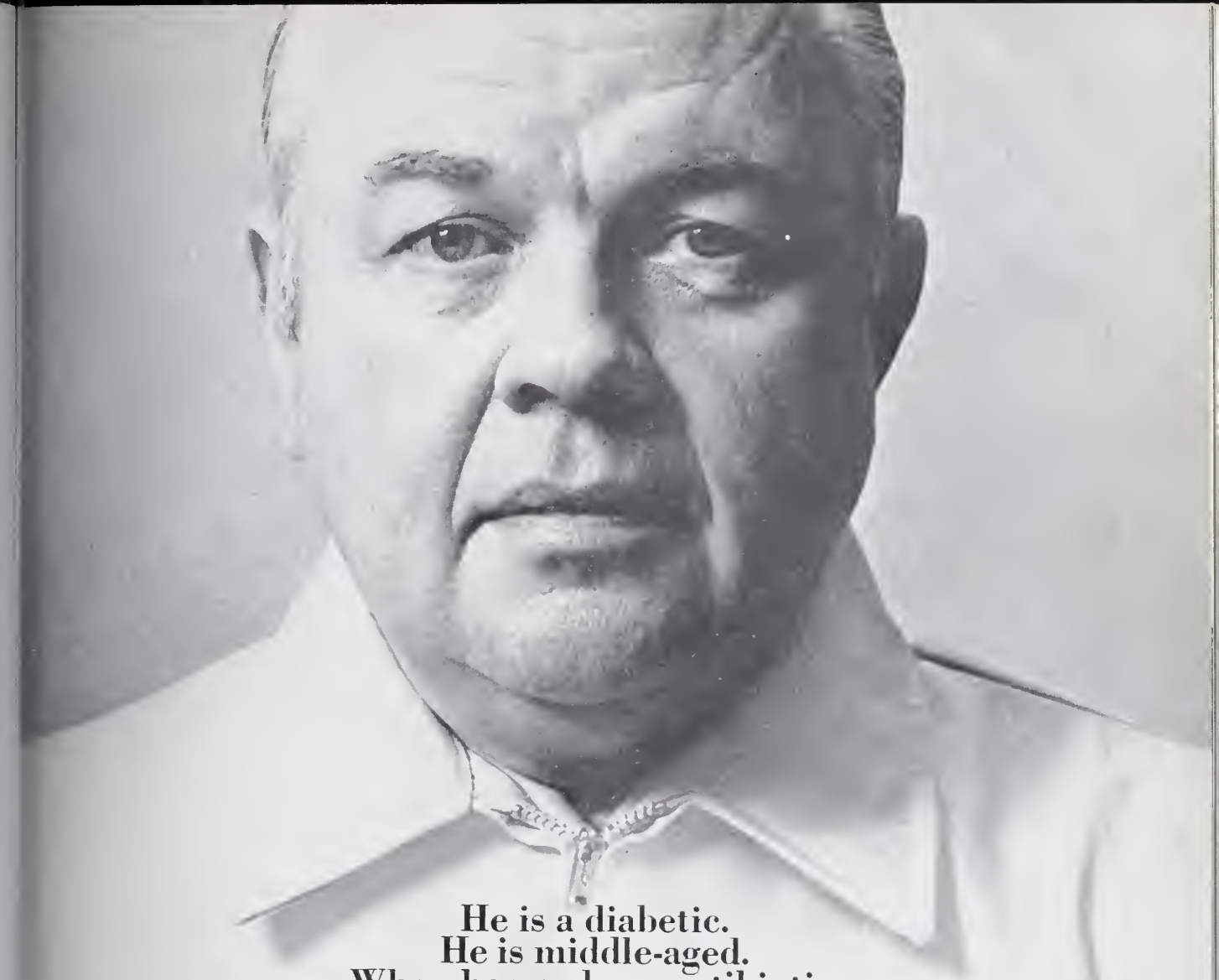
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CAPSULE-SHAPED TABLETS Lederle

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Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

Lederle

LEDERLE LABORATORIES
A Division of American Cyanamid Company, Pearl River, New York

349-d

"Shall I order Maalox?"





"Yes. Patients respond well to it, and seem to take it more faithfully."

Works well · Doesn't constipate · Tastes good · Economical

Supplied: Maalox Suspension (12 fl. oz.). *Also available:* Maalox No. 1 Tablets (0.4 Gm.) : no sugar, low sodium content. Maalox No. 2 Tablets (0.8 Gm.) : double strength for double antacid action.

THE NUMBER ONE ANTACI

Maalox

MAGNESIUM-ALUMINUM HYDROXI

ROHRER

WILLIAM H. RORER, INC.
Fort Washington, Pa. 19034

raldrate

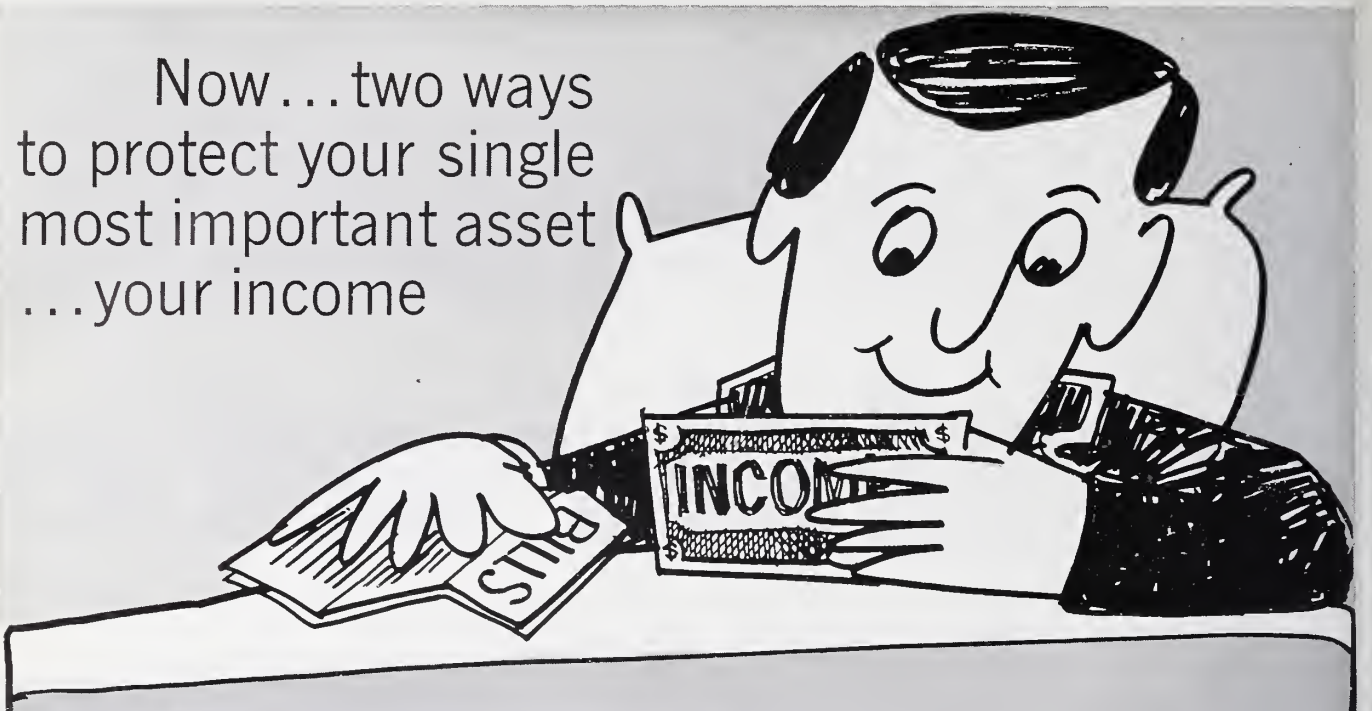
(SYRUP OF CHLORAL HYDRATE)

A palatable chloral hydrate syrup
containing 10 grains in each teaspoonful.

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JONES and VAUGHAN
Richmond 26, Virginia

Now... two ways to protect your single most important asset ...your income



Join **The Medical Society of Virginia's** sponsored and endorsed **Disability Income** and the new **In-Hospital Income** plans

New **In-Hospital** Plan Features:

- ☐ **Pays in addition to any other insurance carried**
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Why take risks? Let the insurance company take them for you. Guarantee yourself an income when disabled or hospitalized. Use coupon below to get complete information.

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Both plans underwritten by INA **Insurance Company of North America**

Caution: Disability May be Hazardous to Your Finances

When doctors are disabled and prevented from practicing, expenses mount up fast. They face not only the bills associated with today's costly medical treatment, but the great expense of maintaining an office and full staff as well. That's why the cost of just one month's disability often runs into thousands of dollars!

Your Medical Society of Virginia knows this. That's why they have sponsored two plans that offer the standard remedy:



- A Professional OVERHEAD EXPENSE Plan which pays fixed office expenses when you're disabled and prevented from practicing due to accident or sickness.
- A Catastrophic HOSPITAL-NURSE Plan which pays the high costs of medical treatment associated with accident and sickness disability.

Both of these Plans, underwritten by American Casualty Company of Reading, Penn., are sensibly priced because of your Association's sponsorship. And either or both of them can go to work for you today . . . if you call us now. Find out for yourself why your Society has selected these insurance plans as the best available to its Members. For more information, write or call COLLECT. There is no obligation, of course.

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Medical Arts Building
Roanoke, Virginia 24011
Phone: 344-5000

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Why don't you call us *collect* for further information or simply fill out the coupon below and mail it today.

YES, I would like full information concerning the:

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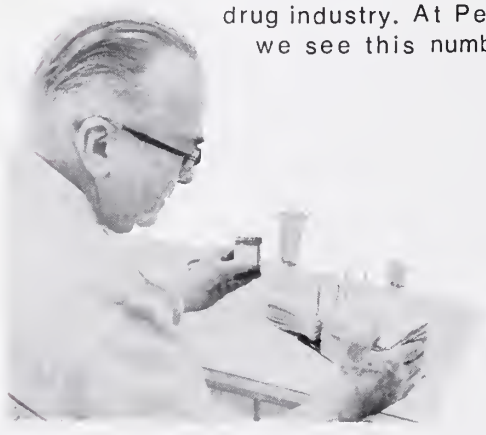
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Since 1905, all Peoples Drug Stores have filled more than one hundred ten million prescriptions. This is more than a tribute to the combined skills of prescribing physicians and registered pharmacists and to the ever-expanding technology of the drug industry. At Peoples, we see this number as a milestone of peoples' confidence in us. Maybe that's because we like to think of each individual prescription that we fill as being equally important as the millions that came before. And at Peoples, we're just as proud of the trust expressed in the *next* prescription we'll be called on to fill.



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Treating vaginitis 's as easy as AVC

Trichomonads...Monilia...Bacteria

ou can depend on AVC—the comprehensive therapy that acts against all three najor vaginal pathogens.

Monilia emerging as a major therapeutic problem—

ecent studies report increased incidence, attributed in part to the use of oral ontraceptives,[1-4] broad-spectrum antibiotics[5-9] and prolonged use of corticosteroids.[7]

ecent evidence establishes high rate of microbiological and clinical cure with AVC.[9-11]

Comprehensive – Effective

he published record and more than two decades of clinical experience clearly stablish the therapeutic value of AVC in vaginitis/cervicitis and vaginal surgery.

Easy as AVC

ontraindications: Known sensitivity to sulfonmides.

recautions/Side Effects: The usuol precoutions r topicol ond systemic sulfonomides should be bserved becouse of the possibility of obsorption. urning, increosed locol discomfort, skin rosh or her monifestotions of sulfonomide toxicity ore osons to discontinue treotment.

osage: One opplicotorful or one suppository inavoginolly once or twice doily.

upplied: Creom—Four-ounce tube with or without opplicotor. Suppositories—Box of 12 with pplicotor.

eferences: 1. Gordner, H. L.: J. Miss. M.A. 8:529, 967. 2. Porter, P. S., ond Lyle, J. S.: Arch. ermot. 93:402, 1966. 3. Wolsh, H.; Hildebrondt, J., ond Prystowsky, H.: Am. J. Obst. & Gynec. :904, 1965. 4. Voginitis ond the Pill: J.A.M.A. 196:731, 1966. 5. Guerriero, W. F.: South. M.J. 56:390, 1963. 6. Seelig, M. S.: Am. J. Med. 40:887, 1966. 7. To-doy's Drugs, New York, Grune & Strotton, Inc., 1965, p. 316. 8. Groy, L. A., ond Bornes, M. L.: Am. J. Obst. & Gynec. 92:125, 1965. 9. Solerno, L. J.; Ortiz, G., ond Turkel, V.: Voginitis: A Diognostic ond Theropeutic Approoch, Scientific Exhibit, presented ot the 115th Annuol A.M.A. Convention, Chicogo, Illinois, June 1966. 10. Wolsh, J. C.; Sheffery, J. B., ond Wilson, T. A.: Med. Ann. D.C. 37:358, 1968. 11. Nugent, F. B., ond Myers, J. E.: Pennsylvonio Med. 69:44, 1966.

THE NATIONAL DRUG COMPANY
DIVISION OF RICHARDSON MERRELL INC
PHILADELPHIA, PENNSYLVANIA 19144

AVC CREAM (ominocrine hydrochloride 0.2%, sulfonilomide 15.0%, ollontoin 2.0%)

SUPPOSITORIES (ominocrine hydrochloride 0.014 Gm., sulfonilomide 1.05 Gm., ollontoin 0.14 Gm.)

ADEMARK: A V C

AV639A 8/68

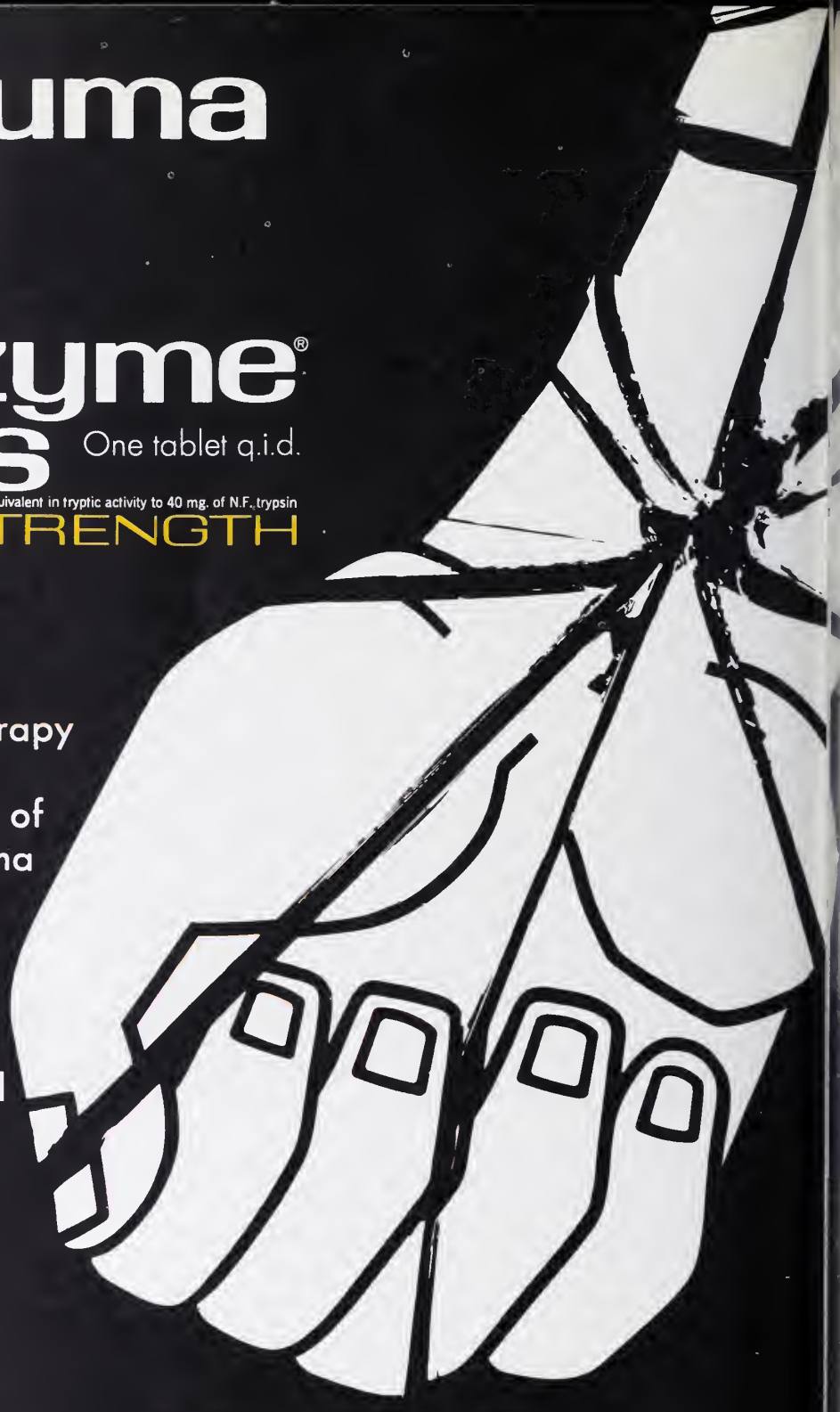
in trauma

new Orenzyme® Bitabs

One tablet q.i.d.

Trypsin: 100,000 N.F. Units, Chymotrypsin: 8,000 N.F. Units.; equivalent in tryptic activity to 40 mg. of N.F. trypsin

DOUBLE STRENGTH



Proteolytic enzyme therapy specifically indicated for the rapid resolution of inflammation and edema as adjunctive therapy in accidental and surgical trauma.

1 tablet q.i.d. provides recommended therapeutic dose at lower cost.

A FULL DAY'S DOSAGE

Description: ORENZYME BITABS offers the therapeutic effects of trypsin in an oral form as adjunctive therapy for the rapid resolution of inflammation and edema. ORENZYME BITABS is convenient to use, promotes patient cooperation and is ideally suited for maintenance therapy following parenteral trypsin.

Indications: When used as adjunctive therapy for the rapid resolution of inflammation and edema, good results have been obtained in:

- ☐ Accidental Trauma
- ☐ Postoperative Tissue Reactions.

Other conventional measures of treatment should be used as indicated. In infection, appropriate anti-infective therapy should be given.

Contraindications: ORENZYME BITABS should not be given to patients with a known sensitivity to trypsin or chymotrypsin.

Precautions: It should be used with caution in patients with abnormality of the blood clotting mechanism such as hemophilia, or with severe hepatic or renal disease. Safe use in pregnancy has not been established.

Adverse Reactions: Adverse reactions with ORENZYME have been reported infrequently. Reports include allergic manifestations (rash, urticaria, itching), gastrointestinal upset and increased speed of dissolution of animal-origin surgical sutures. There have been isolated reports of anaphylactic shock, albuminuria and hematuria. Increased tendency to bleed has also been reported but, in controlled studies, it has been seen with equal incidence in placebo-treated groups. (See Precautions.) It is recommended that if side effects occur medication be discontinued.

Dosage: One tablet q.i.d.

THE NATIONAL DRUG COMPANY
DIVISION OF RICHARDSON-MERRELL INC.
PHILADELPHIA, PENNSYLVANIA 19144

TRADEMARK: BITABS U.S. PATENT NO. 3,004,893 4/69 0-821A



The burdened heart...

The burdened heart, psychic tension, and adjunctive therapy with Valium® (diazepam):



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

ROCHE

Roche
LABORATORIES

Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



Artist's conception schematically showing varying ischemic ventricular muscle tissue.

To help lift psychic tension from the already burdened heart

When the cardiac patient shows signs of panic-like reactions following initial diagnosis—a daily regimen of 10-mg Valium (diazepam) tablets *t.i.d.* or *q.i.d.* can help control *severe* psychic tension, anxiety, apprehension and agitation. For *less severe* emotional stress, the 5-mg tablet usually provides the desired calming effect.

When the cardiac patient's outlook impedes convalescence—Valium, as it relieves psychic tension, can help the patient regain a realistic perspective... help him deal more rationally with convalescence by countering excessively anxious attitudes towards the future.

When the cardiac patient can't adjust emotionally to post-recovery limitations—Valium, through its prompt and pronounced calming action on psychic tension, may help avoid exacerbation or aggravation of cardiac symptoms.

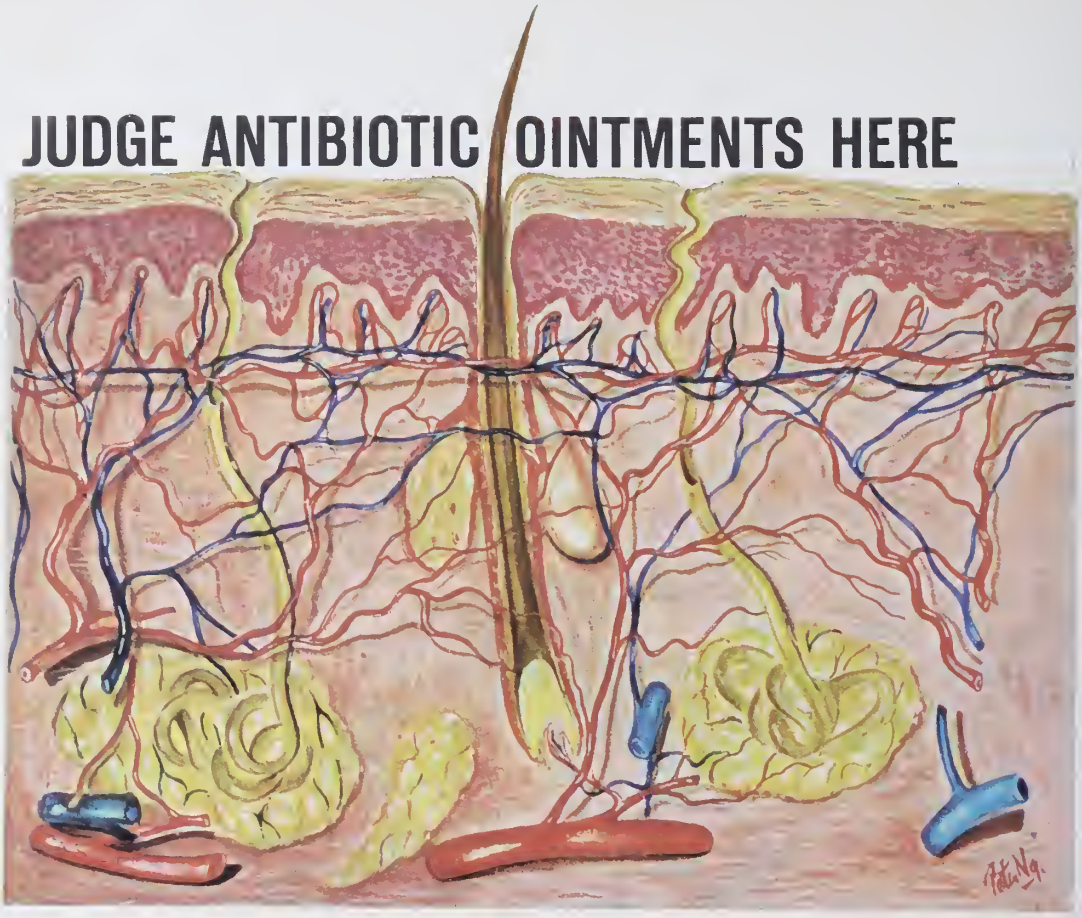
On proper maintenance dosage, Valium seldom dulls the senses or interferes with functioning.

Should anxiety-induced insomnia be a problem— an *h.s.* dose added to the *t.i.d.* schedule usually helps permit a night of restful sleep.

Valium®
(diazepam)

2-mg, 5-mg and 10-mg tablets
t.i.d. and *h.s.*

JUDGE ANTIBIOTIC OINTMENTS HERE



Results on skin are final proof of any topical antibiotic's effectiveness

No in vitro test can duplicate a clinical situation on living skin. 'Neosporin' (polymyxin B—bacitracin—neomycin) Ointment has consistently proven its effectiveness in thousands of cases of bacterial skin infection. The spectra of the three antibiotics overlap in such a way as to provide bactericidal action against most pathogenic bacteria likely to be found topically. Diffusion of the antibiotics from the special petrolatum base is rapid since they are insoluble in the petrolatum, but readily soluble in tissue fluids. The Ointment is bland and nonirritating.

Caution: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Contraindications: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

Supplied: Tubes of 1 oz., ½ oz. with applicator tip, and ⅛ oz. with ophthalmic tip.

Complete literature available on request from Professional Services Dept. PML.

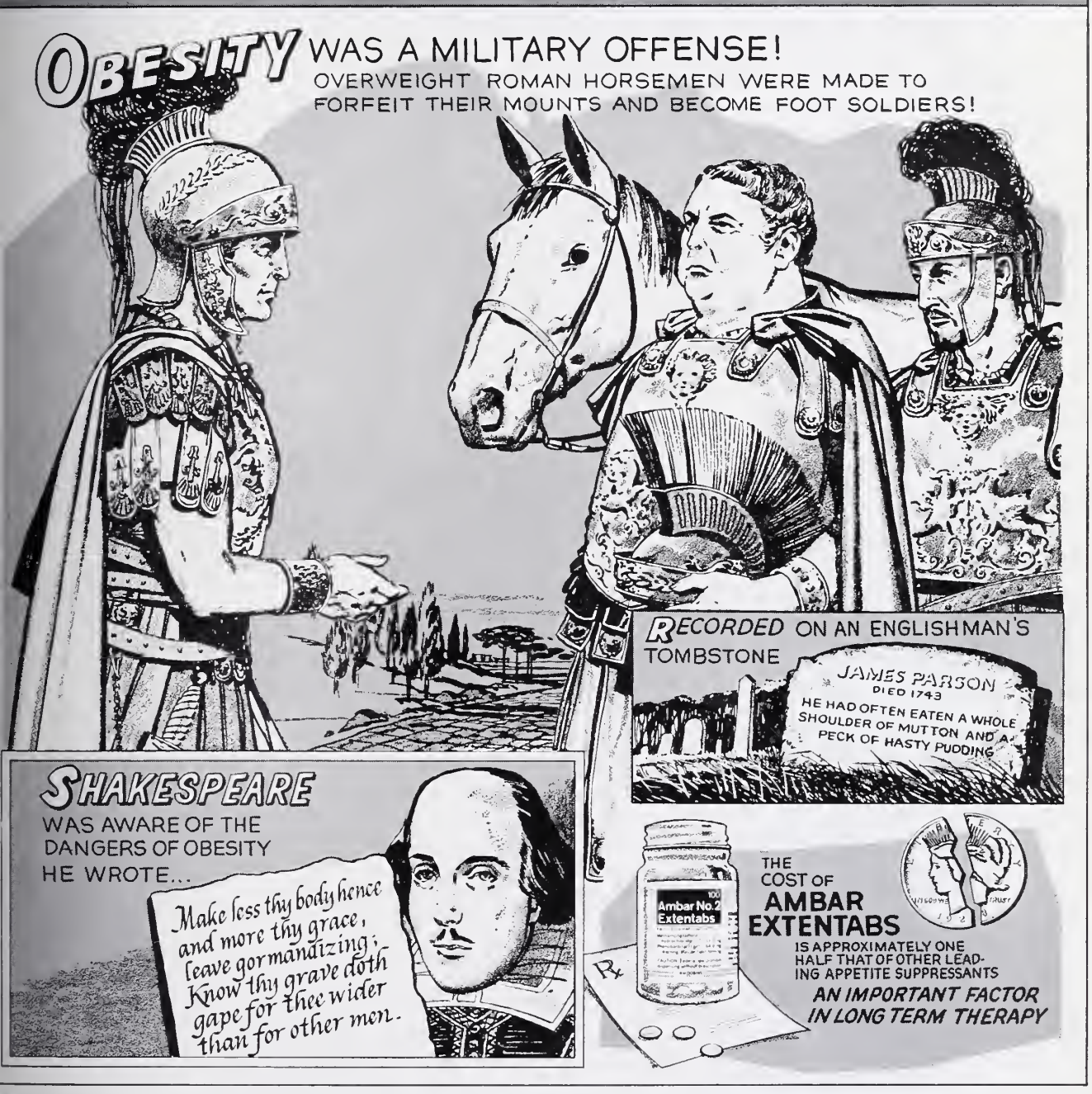
'NEOSPORIN'®

brand

POLYMYXIN B-BACITRACIN-NEOMYCIN OINTMENT

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.

The AMBAR® SCRAPBOOK of Obesity Oddities
FACT & LEGEND



CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety... helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

A. H. ROBINS COMPANY, RICHMOND, VA. 23220 A·H·ROBINS

What makes a

A man?
Another woman?
Three kids?
No kids at all?
Wrinkles?
You name it.

Is she truly depressed?

Is that why she lets go in your office?

You comfort her.
Talk to her.
And, if she is depressed, consider Pertofrane.
Because
in 3 to 5 days
she can often begin
to cope,
work,
maybe play,
even enjoy.

Pertofrane®

desipramine hydrochlori
In depression...
when words are not enou

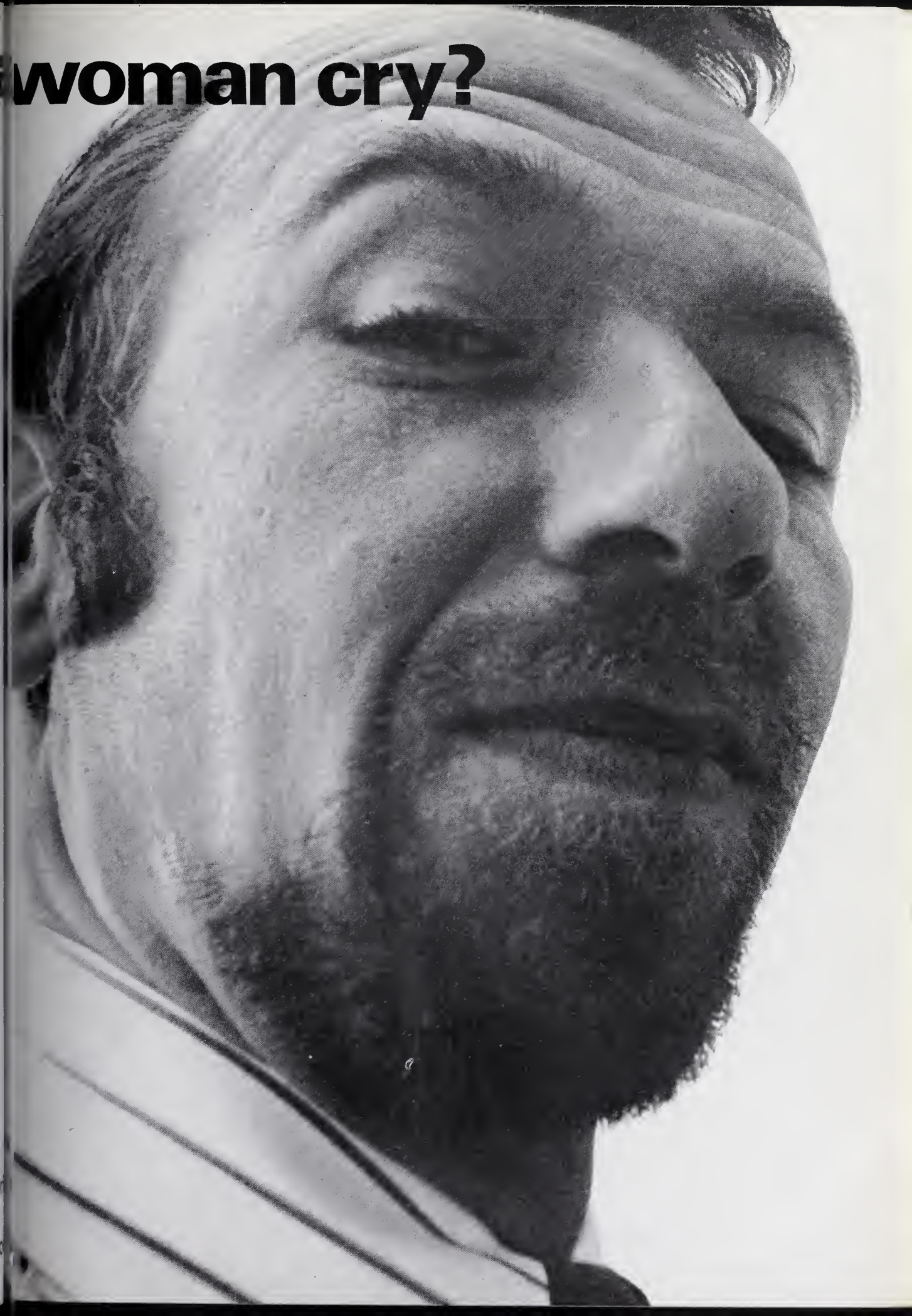
But before you prescribe Pertofrane, please see the full prescribing information and especially note Contraindications, Precautions, Warning, Adverse Reactions and Dosage. A brief summary of that information is included here.

Pertofrane® desipramine hydrochloride

Indications: For relief of depression.
Contraindications: Do not use drugs of the M.A.O.I. class with Pertofrane. Hyperpyretic crises or severe convulsive seizures may occur; potentiation of adverse effects can be serious or even fatal. When substituting this drug in patients receiving an M.A.O.I., allow an interval of at least 7 days. Initial dosage in such patients should be low and increases should be gradual and cautiously prescribed.
Warning: Activation of psychosis may occasionally be observed in schizophrenic patients. Do not use in patients under 12 years old, and do not use in women who are or may become pregnant unless the clinical situation warrants the potential risk.
Precautions: Careful supervision and protective measures for potentially suicidal patients are necessary. Discontinuation of therapy or adjunctive use of a sedative or tranquilizer may be necessary in the presence of increased anxiety or agitation, hypomania or manic excitement. However, phenothiazines may aggravate the condition. Atropine-like effects may be more pronounced (e.g. paralytic ileus) in susceptible patients and in those receiving anticholinergic drugs (including antiparkinsonism agents). Carefully observe patients with increased intraocular pressure. Prescribe cautiously in hyperthyroid patients and in those receiving thyroid medications. Cardiovascular complications (myocardial infarction and arrhythmias) are potential risks since they have occasionally occurred with imipramine, the parent compound. Desipramine may block the pharmacologic activity of guanethidine and related adrenergic neuron-blocking agents. Hypertensive episodes have been observed during surgery in patients on desipramine therapy.
Before prescribing the drug, the physician should be thoroughly familiar with prescribing information, with the literature, with all adverse reactions, with the diagnosis and management of depression, and with the relative merits of all measures for treating the condition.
Adverse Reactions: Dry mouth, constipation, disturbed visual accommodation, anorexia, perspiration, insomnia, drowsiness, dizziness, headache, nausea, epigastric distress, and skin rash (including photosensitization) may appear. Since orthostatic hypotension has occurred, carefully observe patients requiring concomitant vasodilating therapy, particularly during the initial phases. Other adverse reactions include tachycardia, changes in EEG patterns, tremor, falling, mild extrapyramidal activity, neuromuscular incoordination, epileptiform seizures. A confusional state (with such symptoms as hallucinations and disorientation) occurs occasionally and may require reduced dosage or discontinuance of therapy. Rarely, transient eosinophilia, slight elevation in transaminase levels, transient jaundice, or liver damage have occurred. If abnormalities occur in liver function tests, discontinue drug and investigate. Occasional hormonal effects, particularly decreased libido or impotence and instances of gynecomastia, galactorrhea and female breast enlargement have been observed. Urinary frequency or retention may occur. The drug should be discontinued if agranulocytosis, bone marrow depression, jaundice, thrombocytopenia, or purpura occur.
Dosage: 25 to 50 mg. t.i.d. The maximum daily dose is 200 mg. Continue maintenance dosage for at least 2 months after obtaining satisfactory response. Generally, elderly and adolescent patients should be given low doses.
Availability: Pink capsules of 25 mg. in bottles of 100 and 1000. (B) 46-530-E

For complete details, please see the prescribing information.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York 10502


woman cry?


"I'm sick spinning"
Osborn

When vertigo began, her life took a turn for the worse.
Either she spins and the room stands still,
or the other way around... and around and around.
Even when she lies down, the spinning
continues. Sometimes there's nausea and vomiting, too.
It's just one thing after another.

You can help stop the spin with

BONINE®

(MECLIZINE HCl)

Bonine protects most patients against vertigo and nausea up to 24 hours with a single dose. Pleasant-tasting Bonine tablets are chewable and can be taken anytime, anywhere, without water. In difficult cases, multiple daily doses may be necessary for maximum response.

Precautions: Although the incidence of drowsiness and atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. *Use in women of childbearing age:* In weighing potential benefits vs. risk in women of childbearing age, consider the fact that a review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum.
Supply: 25 mg. scored tablets.
More detailed professional information available on request.

Pfizer
LABORATORIES DIVISION
New York, N.Y. 10017



The Fortunate One.

Her urinary tract infection reveals itself through pain and discomfort.

While the pain and discomfort of a G.U. infection are anything but pleasant, the patient may be luckier than she realizes. That burning sensation (and/or frequency, urgency, dysuria) is a usually reliable sign of a urinary tract infection. And it's her good fortune that her infection won't go undetected...or untreated.

Azo Gantanol® therapy usually provides analgesic action within one-half hour, while control of the infection begins within two hours. Azo, a specific urinary analgesic, soothes inflamed mucosa to give symptomatic relief. At the same time, the antibacterial component, Gantanol (sulfamethoxazole), achieves therapeutic levels in the blood and urine, with diffusion into interstitial fluids. Azo Gantanol—a good choice when urinary tract infection reveals itself through symptomatic distress.

Before prescribing, please consult complete product information, a summary of which appears on opposite page.

Azo Gantanol®

(Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.)

Azo for the pain
Gantanol®
(sulfamethoxazole)
for the pathogens

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Urinary tract infections with associated pain or discomfort when due to susceptible organisms; prophylactically in urologic surgery, catheterization and instrumentation.

Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, newborn infants during the first three months of life, glomerular nephritis, severe hepatitis, uremia and pyelonephritis of pregnancy with gastrointestinal disturbances.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In closely intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

Precautions: Observe usual sulfonamide therapy precautions including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus and rickettsial infections.

Adverse Reactions: Headache, nausea, vomiting, urticaria, diarrhea, hepatitis, pancreatitis, blood dyscrasias, neuropathy, drug fever, skin rash, Stevens-Johnson syndrome, injection of the conjunctiva and sclera, petechiae, purpura, hematuria or crystalluria may occur, in which case the dosage should be decreased or the drug withdrawn.

Dosage: Adults—4 tablets initially, then 2 tablets morning and evening.

How Supplied: Tablets, bottles of 50.

ROCHE
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LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Achromycin V
250 mg. capsules

ACHROMYCIN® V
TETRACYCLINE HCl
Lederle
481C-9

For the
Discriminating
Eye Physician

Depend on the Services of a Guild Optician

GUILD OF PRESCRIPTION OPTICIANS OF AMERICA

in

Lynchburg, Virginia

A. G. JEFFERSON

Ground Floor **Allied Arts Bldg.**

Exclusively Optical

WHAT'S SO WEAK ABOUT THE WEAKER SEX?

OFTEN... HER LOWER G. I. TRACT



Psycho-abdominal Distress: Frequently Female

Women aged 15 to 45 appear to be more prone than men to bloating, cramping pain of stress-related intestinal disturbances such as irritable or spastic colon.[1,2]

Frequently Recurrent

In the experience of many physicians, women are more likely to reappear time after time with repeated complaints of lower G.I. distress.

Requiring Definitive Therapy

Often needed is therapy adequate to control both the somatic and the emotional components of psycho-abdominal complaints.

Definitive Dual Therapy

'Milpath' contains a proven synthetic anticholinergic useful for relieving hypermotility, spasm, and hypersecretion of the gastrointestinal tract.

In addition, 'Milpath' provides a time-tested tranquilizer for mild but effective anti-anxiety action.

With Flexible Dosage

- 'Milpath'-400 (meprobamate 400 mg. + tridihexethyl chloride 25 mg.) Usual adult dose: 1 tablet *t.i.d.* and 2 at bedtime.
- **When less tranquilization is required: 'Milpath'-200 (meprobamate 200 mg. + tridihexethyl chloride 25 mg.)**

Wallace Pharmaceuticals/ Cranbury, N. J. 08512

gently but firmly

MILPATH®

(meprobamate + tridihexethyl chloride)

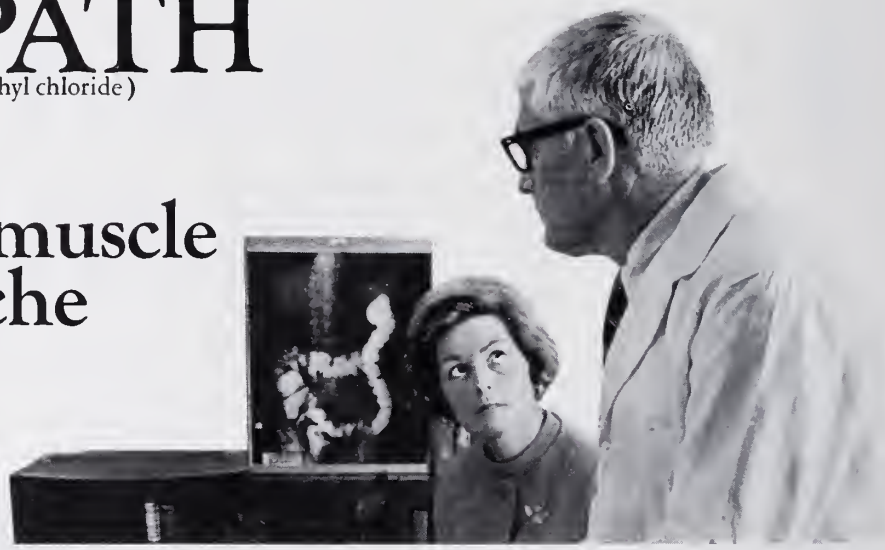
relaxes smooth muscle and psyche

Please see the following page for brief summary of prescribing information.

Gently but firmly MILPATH®

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Relaxes smooth muscle and psyche



Usual Adult Dosage

One 'Milpath'-400 tablet, three times a day at mealtimes, and two at bedtime. For greater anticholinergic effect, two 'Milpath'-200 tablets, three times a day at mealtimes and two at bedtime. Doses of meprobamate above 2400 mg. daily not recommended.

Indications

Useful in organic and functional disorders with hypersecretion and hypermotility of G.I. tract, especially when accompanied by anxiety, neurosis, or tension states. Should be used as an adjunct to all other therapeutic measures.

Contraindications

Tridihexethyl chloride: Urinary bladder-neck obstructions, e.g., prostatic obstruction due to hypertrophy; pyloric obstructions because of reduced motility and tonus: organic cardiospasm (megaesophagus); glaucoma; possibly in stenosing gastric or duodenal ulcers with significant gastric retention.

Meprobamate: Previous allergic or idiosyncratic reactions to meprobamate.

Precautions

Tridihexethyl chloride: Use cautiously in elderly males (possible prostatic hypertrophy).

Meprobamate: Carefully supervise dose and amounts prescribed. Consider possible dependence or habituation (reported occasionally after excessive use), particularly in severe psychoneurotics, alcoholics, ex-addicts. Withdraw gradually (one or two weeks) after excessive dosage for weeks or months to avoid recurrence of pre-existing symptoms (e.g., anxiety, anorexia, insomnia) or withdrawal reactions (e.g., vomiting, ataxia, tremors, muscle twitching; rarely, epileptiform seizures, more likely in those with CNS damage or latent convulsive disorders). If drowsiness or visual disturbance occurs, reduce dose and advise against activity requiring alertness (driving, machinery operation). Effects of excess alcohol may be increased. Grand mal seizures possible in persons with both petit and grand mal. Prescribe cautiously in small amounts to patients with suicidal tendencies. Prescribe with caution to patients with known sensitivity to compounds of similar chemical structure, e.g., carisoprodol.

Side Effects

The following side effects of components may occur with 'Milpath'.

Tridihexethyl chloride: Severe effects rare on recommended dosage. Anticholinergic effects: dry mouth (fairly frequent at oral doses of 100 mg.), constipation or "bloated" feeling. Possible: tachycardia, dilation of pupils, increased ocular tension, weakness, nausea, vomiting, headache, drowsiness, urinary hesitancy or retention, dizziness.

Meprobamate: Drowsiness, sometimes with ataxia, usually controlled by decreasing dosage, occasionally with aid of central stimulants (e.g., amphetamine). Rarely, allergic or idiosyncratic reactions (usually after one to four doses); in mild form: itchy, urticarial or erythematous, maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever, transient leukopenia, and one fatal bullous dermatitis (after meprobamate and prednisolone) reported. More severe, very rare hypersensitivity: fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (one fatal), anuria, anaphylaxis, stomatitis and proctitis. Treat symptomatically (e.g., epinephrine, antihistamines, possibly hydrocortisone); stop and do not restart the drug. Isolated agranulocytosis, thrombocytopenic purpura, one fatal aplastic anemia reported, but only in presence of known toxic drugs, porphyric symptoms reported but relationship not established. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation reported by one observer. Fixed drug eruption with meprobamate and cross reaction to carisoprodol reported.

Suicidal attempts may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse, and death. Excessive dosage has led rapidly to sleep, then reduction of vital signs to basal levels. Empty stomach, and if respiration becomes very shallow and slow, cautiously give CNS stimulants (e.g., caffeine, pentylenetetrazol, amphetamine); also pressor amines if indicated.

Supplied

In two strengths:

'Milpath'-400: Yellow, scored tablets.

'Milpath'-200: Yellow, coated tablets.

Before prescribing, consult package circular.

References

1. Harrison, T. R., et al.: Principles of Internal Medicine, Fifth Edition, New York, The Blakiston Division, McGraw-Hill Book Company, 1966, p. 1019. 2. Bockus, H. L.: Gastroenterology, Second Edition, Philadelphia & London, W. B. Saunders Company, 1964, Vol. II, p. 729 et seq.

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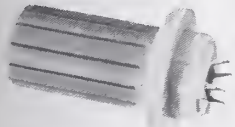
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The Virginia
MEDICAL MONTHLY

July, 1969
Vol. 96, No. 7
Whole No. 1406

Guest Editorial . . .

Public Health—Has It a New Look?

THE CLASSICAL CONCEPT of the role of public health in early Colonial America was to control epidemic disease. With ruralization (the shift from village to farm in early America), digging privies, checking animals, and chasing mosquitoes were added. The mass arrival of the immigrant heralded the advent of the slum and with it came "maternal and child care*", immunization schedules, and food, water and sewage supervision. Urbanization added the laboratory,† inspection of public facilities, and "care for the needy". In time, in America, public health had come to be viewed as a waste basket into which medical problems could be thrown that did not fit easily into a private practice (being too awkward, too time consuming, or too demeaning). As time passed, an attitude gradually developed that public health should not deal with the "real" practice of medicine, i.e., the care of the sick. Thus, a growing gulf developed between the purveyor of public medicine and the provider of private care.

The paradox of the aforementioned gulf lies in the attitude of the average citizen; the practicing physician has become his popular hero; the health officer has remained unknown. Yet, with the major exceptions of anesthesia, I.V. fluids, sterile surgery, and antibiotic therapy, the great advances in the war against death and disease have been effected by the worker in public health as a key member of the health team. By his efforts malaria, plague, cholera, typhoid, diphtheria, yellow fever, smallpox, dengue, syphilis, tuberculosis, leprosy, dysentery, amebiasis, the tapeworm and the roundworm, all epidemic killers, have been brought to heel. Pellagra, beriberi, and kwashiorkor are gone, and the killers of babies, mothers, and workers have fallen to controllable rates. Virginia has had a vanguard position in much of this progress.

The scope of public health, to the average physician, is in fact a poorly known area of medicine. To some, it is a field staffed with physician failures; to many it represents a dangerous form of government sponsored socialized medicine; to most, it represents a service organization with which they work to provide mass health care not feasible in a person-to-person practice; to the majority, it tends to be viewed with an air of wary suspicion.

Public Health, to the average citizen, too, is a poorly understood facet of the field of medicine. To some, it is a complete unknown; to many, it will be the only source of medical care they will ever have; to most it

*In the North and Mid-west, while in the South "Maternal and Infant" care was developed to meet the needs of the rural populations.

†In Virginia this was developed to meet rural need.

represents some vague kind of government activity that protects them in some way not clearly understood. Yet to the majority, it is the organization to call when a problem of health arises or a complaint needs to be lodged. To the average citizen, then, public health is identified with health while the practicing physician is equated with disease! Perhaps this is the basis for the traditional gulf that lies between the public health officer and the physician in private practice.

Historically, Virginia has been a pastoral State; its medicine, both public and private, has reflected it. Medical care has had a highly personal and independent character; though, with its rural tax base and dispersed population, its investment in health care has been low. Since World War II, however, this situation has begun to change. Suburbanization of Washington, Richmond, and Norfolk has concentrated two-thirds of Virginia's population into less than one-third of its land mass. Ghettoism, racial strife and welfarism have come into being. A public cry for an improvement in the delivery of medical care has developed. Federal agencies have pushed regionalization, equality, and inter-agency cooperation. Insurance schemes against the cost of hospitalization and surgery foretold "Medicare". But, one-third of the nation could not pay for private medical care; in response Titles XVIII (Medicare) and XIX (Medicaid) were enacted. Hospitals and clinics could not meet the demand. The private and public physician were faced with new pressures on their time and ability. The stage was set for a new look in public health; a change from the old, restricted environmental health-preventive medicine position was required.

The New Look? The ferment of social unrest and the pressure of the new "participatory democracy", as seen in Norfolk's Model Cities, has demanded that the new public health:

(1) Act as the interface between the needs of the total community and the resource limitations of the medical profession and the hospitals. By its regular and familiar presence in the neighbohoods, it cushions against the discontent of the medically indigent and the ghetto resident.

(2) Fill the interspaces between the limits of acute care and the demands for comprehensive health care.

(3) Attack, sociologically, the environmental basis for disease, acute and chronic, by seeking to prevent the conditions which set the stage for illness rather than follow the traditional pattern of attempting to suppress the disease itself. (Example: Phenylketonuria.)

(4) Expand its epidemiologic, research, educational, and preventive activities in eliminating the preventable disease. (Example: measles eradication.)

(5) Increase its service role to meet more completely the needs of the populace and the profession.

(6) Develop new means for expanding the physician's individual effectiveness. (Example: multiphasic screening combined with "third generation automatic data processing" can produce, on a single page, the pertinent historical, clinical, and laboratory data

which will pinpoint the most probable disease condition and indicate the most likely avenues for physician's investigation, thus removing much of his time-consuming search for each patient's problem. The Public Health Department of Richmond City maintains such a surveillance for all tuberculosis cases, supplying the individual physician with a monthly survey of pertinent data on his patient's status.)

(7) Support the physician and psychiatrist in the supervision of his patient through "home health" and "follow-up care", thus reducing the demands on the professional and hospital while broadening the comprehensiveness of the patient's care and improving his chances of maximum rehabilitation.

(8) Expand the physician's capability by training and upgrading paramedical personnel and by introducing the behavioral scientist into the medical team.

(9) Apply the new genius of data-processing to the old genius of statistics so that the combined available data about each physician's individual patient will produce mass experience impossible to any single physician and identify new disease entities, their epidemiologic trends, and their treatment.

(10) Amass and make generally known to society the dangers it faces and the means for avoiding them, and,

(11) Function in the planning processes (national, regional, and local) so that health can be improved and preserved and disease and death can be aborted or prevented.

By these, and other means, public health in Virginia in general (and Norfolk in particular) strives to strengthen ties in bridging the traditional gap between private practitioner and public health officer, a gap which could become a chasm unless the following pressures are controlled:

(1) The pressure of the "new populists" who demand equal medical care with their more affluent brothers.

(2) The pressure of the expanding equalitarianism of the Federal programs for health and welfare.

(3) The pressures of the increasing deficit in professional manpower, and,

(4) The pressures of the impossible growth in knowledge in the new state of medical art.

Thus, the "New Look" in public health bridges gulfs, strengthens ties, makes a true "rapprochement" with private medicine, and produces, in fact, comprehensive medical care. The magnitude of the people's investment in this new look, in Virginia, can be gauged by its investment in dollars. Within the current decade public support has moved from $1.00 to $10.00 per capita for the general population and will move from $1.00 to $217.00 per capita for the 382,000 who will be eligible for Medicaid on July 1, 1969. *Yes, Virginia, there is a new look in Public Health.*

HARRY S. WISE, M.D.

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Norfolk, Virginia 23507

A Comprehensive Approach to the Treatment of Intraoral and Pharyngeal Cancer

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CHARLES E. HORTON, M.D.
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Norfolk, Virginia

A comprehensive approach is presented for the treatment of extensive intraoral cancer. Cooperation with the radiotherapy department is emphasized. General plans for reconstruction are made prior to the definitive resection.

TO OBTAIN IMPROVED CURE RATES and better functional results, a comprehensive approach is needed for the treatment of oral and pharyngeal cancer. The results of radiation therapy have generally been disappointing and intensive doses have produced significant complications.[1,2] Radical surgery, while achieving better cancer control than radiation, may be complicated by postoperative orocutaneous fistulas, gross deformities and seriously impaired oral function.

The purpose of this paper is to present a comprehensive regimen for the treatment of intraoral cancer which includes a cooperative approach by the surgeon and radiotherapist and definitive treatment combining preoperative irradiation with radical excision and immediate reconstruction with local pedicle flaps. The preoperative irradiation is given in moderate doses of 2,000-4,000 rads to decrease the incidence of recurrence and also to avoid the complications of intensive radiotherapy.[3] Immediate reconstruction with local flaps has achieved good swallowing, speech and appearance and has greatly decreased the number of complications.[4]

Examination and Diagnosis

For a thorough intraoral examination, the patient should be relaxed and seated with a head support and the examiner must have good lighting and proper retractors. A gentle touch is essential to gain cooperation



Fig. 1. The bimanual examination begins superiorly and works down the lateral oral and pharyngeal walls across the floor of mouth and base of tongue.

and relaxation for a good intraoral examination. After the intraoral inspection is com-

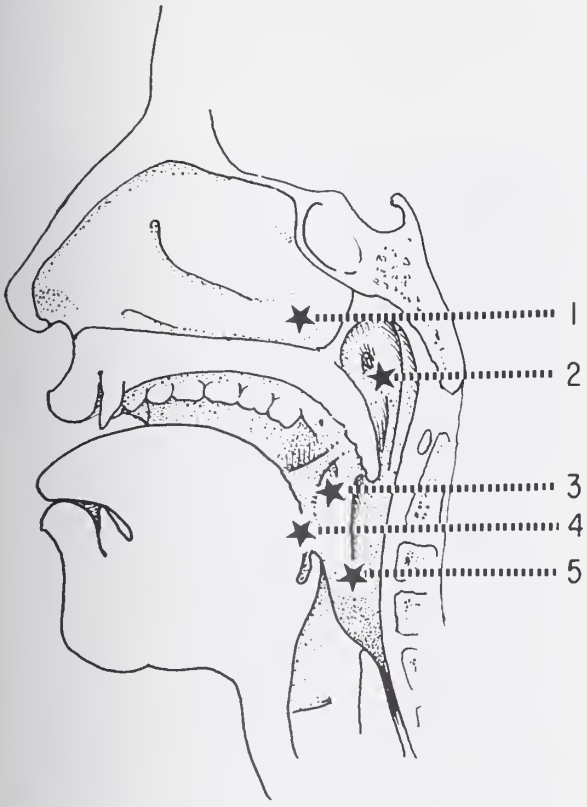


Fig. 2. The relative "blind areas" to the routine visual intraoral inspection are: (1) nasopharynx, (2) lateral pharyngeal recess, (3) tonsillar fossa, (4) base of tongue, (5) hypopharynx. An indirect mirror examination should be used to inspect these areas.

pleted, a careful bimanual examination is essential. The oropharynx is topically anesthetized and then palpated with the fingers of one hand inserted in the mouth with the other hand used externally as counter pressure (Fig. 1). The floor of mouth, base of tongue, tonsillar region, lateral and hypopharynx are easily reached with the examining finger. This bimanual examination will more accurately find and define the submucosal extension of an intraoral carcinoma than any other means. Once the lesion is located it must be gently palpated to prevent the possibility of pushing tumor cells into regional lymphatics.

It is important to keep in mind the relative blind spots in the routine visual intraoral examination—the tonsillar fossa, lateral pharyngeal recesses, base of tongue, hypo- and nasopharynx (Fig. 2). Pharyngoscopy, laryngoscopy and direct palpation of these areas are easily performed as an office procedure.

Vital staining of intraoral tissues with toludine blue and oral cytology are two new methods not yet established to be of great clinical significance, but they may serve as diagnostic adjuncts.[6] One percent toludine blue applied to a suspicious area with a cotton applicator has an affinity for oral carcinoma and stains it deep blue. In one series, there were no false negatives with some false positives in inflammatory lesions.[6] This simple diagnostic technique may play an important role in the diagnosis of intraoral cancer in mass screening programs.

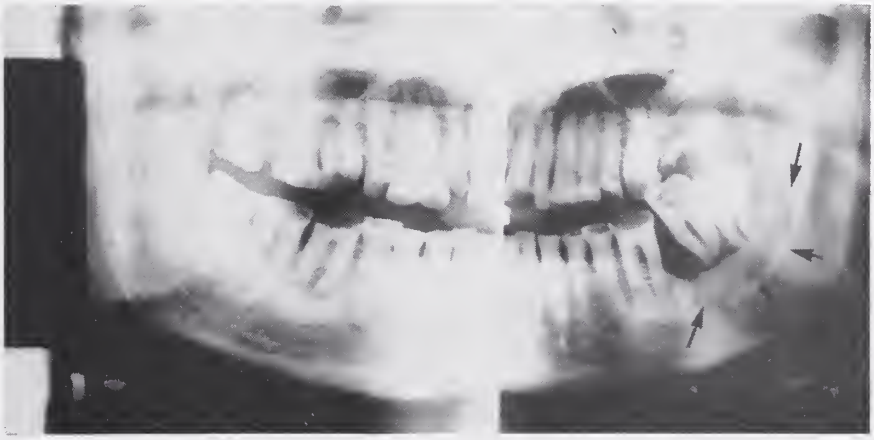


Fig. 3. A carcinoma is shown invading the right molar region (arrows) on this Panorex film. The Panorex x-ray gives a better perspective to the surgeon than the routine lateral oblique of the mandible.

Although most patients with intraoral cancer will give a history of a sore in the mouth or a change in swallowing or speaking, a small number will be asymptomatic. The posterior oral cavity and pharyngeal lesions are especially prone to harbor "silent" lesions which metastasize to neck nodes early. Patients with these silent lesions frequently complain only of a "lump" in the neck. Any unexplained neck mass is an indication for a thorough diagnostic study and should never be merely "watched".

Pathological diagnosis of intraoral or pharyngeal cancers is best made by an incisional biopsy taking an adequate piece of tissue preferably from the periphery of the lesion. Excisional biopsy should be performed only by the surgeon who will do the definitive resection. Otherwise, by the time of diagnosis and referral, the excisional biopsy

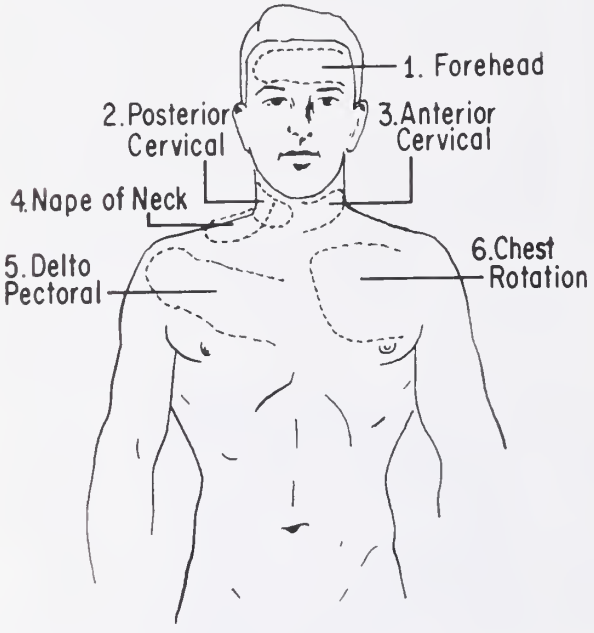


Fig. 4. The most useful regional flaps for intraoral and related reconstruction are: (1) total forehead, (2) posteriorly based cervical, (3) anteriorly based cervical, (4) nape of neck, (5) delto-pectoral, and (6) chest rotation advancement.

site may be so well healed as to be lost or else hidden by the induration of healing.

Preoperative Preparation

Preoperative workup should include a combined examination by the surgeon and radiotherapist. With the more posterior oropharyngeal and hypopharyngeal lesion, this is best done in the operating room and includes a direct laryngoscopy. The boun-



Fig. 5. A 52 year old male presented with an advanced floor of mouth carcinoma. This operative view shows the en bloc resection of the entire floor of mouth, right neck, left upper neck and the inner table of the mandible. The lesion was in proximity to the mandible but did not actually invade so the outer table was spared. The lower arrow points to the resected mandible, the upper arrow to the outer table and the middle arrow to the tongue.

daries of the lesion are carefully determined and recorded for even after small doses of radiation the lesion frequently decreases in size. It is emphasized that the moderate doses of radiation are *not* given with the intention of a complete cure of the cancer, but rather for the purpose of decreasing the chance of recurrence from peripheral cells. The well oxygenated, rapidly dividing cells at the periphery of the tumor are more susceptible than those in the center and are theoretically killed by preoperative radiation. Strong reported 19% decreased recurrence rate at five years in a series of head

and neck cancer patients given 2,000 rads preoperatively over five days.[5] To assure complete removal it is important to resect well around the original tumor boundaries even when moderate doses of radiation have decreased the size of the tumor. An additional benefit of radiation therapy is the

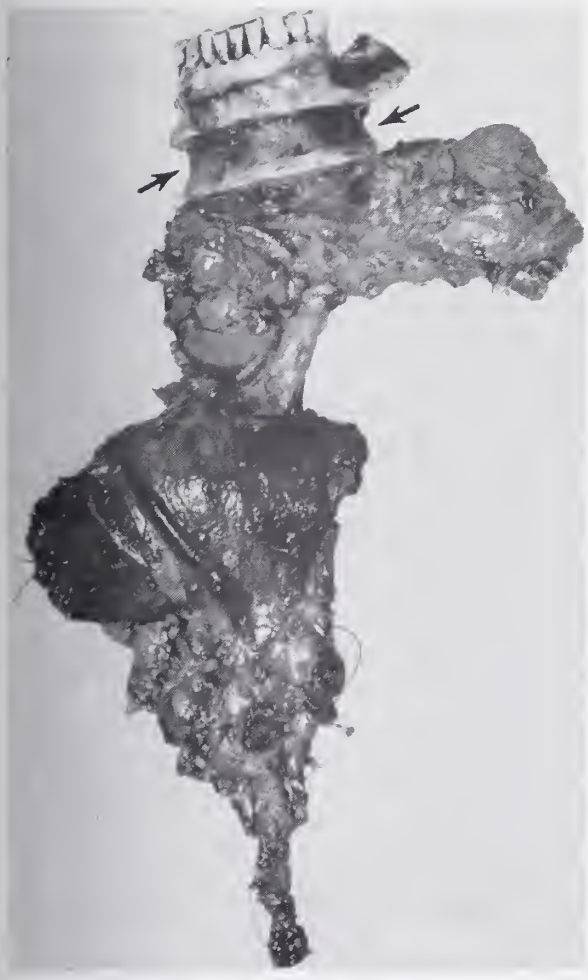


Fig. 6. The en bloc specimen shows the neck dissections in continuity with the anterior floor of mouth and the mandible. Two nodes were positive in the right neck. Arrows point to the defect in the specimen made by the preservation of the outer table.

change in an ulcerated, fungating, infected lesion to a smaller and cleaner one, thus reducing wound contamination and postoperative infection. There have been no problems with wound healing using these moderate doses.

Routine blood work including blood chemistries and a blood volume study are performed on all patients undergoing a *major* head and neck procedure. Hypovolemic blood volumes with an actual red cell mass deficit are not uncommon and may be missed by a routine hemoglobin or hematocrit determination. For lesions located on or fixed to the mandible, x-rays (PA, oblique and occlusal views) help define



Fig. 7. A forehead flap is used to reconstruct the anterior floor of mouth in order not to cause distortion of the normal tongue position. The arrow points to the preauricular entrance of the flap into the mouth.

the extent of bone invasion. When available, Panorex x-rays may be even more helpful (Fig. 3). For extensive lesions of the naso- or oropharynx, x-rays of the facial bones, paranasal sinuses and base of skull are taken to reveal the degree of tumor extension. For hypopharyngeal lesions additional information may be obtained by soft tissue x-rays, barium swallows or planograms. The chest x-ray and EKG are routine.

During the course of preoperative x-ray therapy, which may last one to three weeks time, the skin is protected with lanolin cream and an electric razor is used for shaving. Strict oral hygiene is encouraged and

frequent peroxide-saline or alkaline gargles are used. The patient undergoing x-ray therapy must not traumatize the oral mucosa and a very soft toothbrush or water pic is helpful.

Preoperative preparation of the cardiopulmonary system can reduce or prevent problems of postoperative atelectasis or pneumonitis which are especially serious threats to those patients who use tobacco and alcohol excessively and have a chronic productive bronchitis. In most, postural drainage, abstinence from smoking, intermittent positive pressure breathing with broncholytic aerosols, deep breathing exercises and coughing will help clear the chest during the period of preoperative radiation therapy. For those patients with refractive chronic productive coughs, a tracheostomy is recommended one week prior to surgery. These patients respond to the tracheostomy with a heavy bronchorrhea for the first three to four days, and, if it is done at the time of surgery, the chance of postoperative atelectasis and pneumonitis may be significantly increased. Since the tracheostomy is necessary in almost all major resections, by performing it preoperatively permits good tracheal toilet and maximum clearing of the bronchorrhea. The patient becomes adjusted to the tracheostomy and capable of self-care prior to his operation. This technique has successfully eliminated postoperative atelectasis and pneumonitis in our older higher risk patients undergoing extensive resections.[3]



Fig. 8. Four weeks after the definitive resection under local anesthesia, the unused proximal portion of the forehead flap was detached and returned to the forehead. Note the normal chin profile has been maintained by leaving the outer table. This stage can be done as an outpatient.

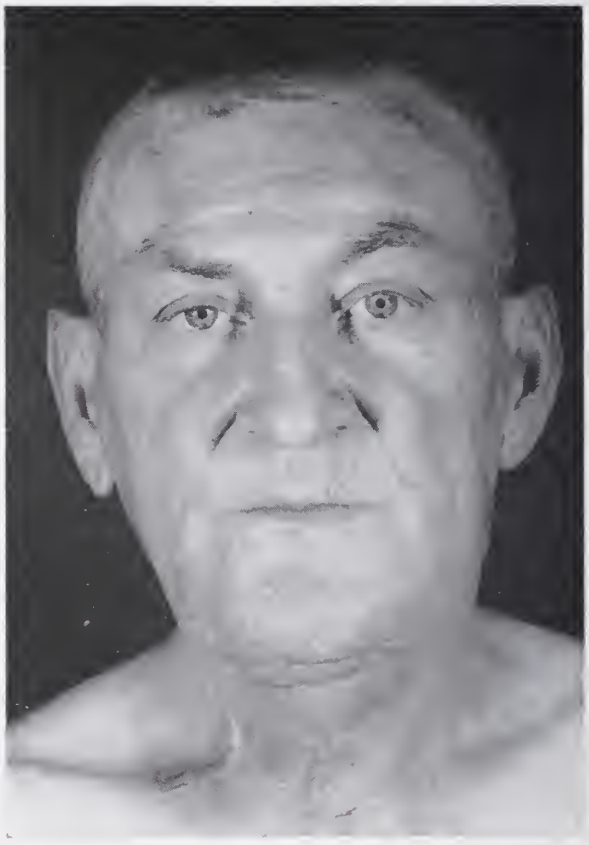


Fig. 9. Six weeks after the return of the flap only a small area of this split thickness skin graft remains on the right forehead.

Preoperative Planning

The head and neck surgeon experienced in reconstructive work is able to judge preoperatively the approximate extent of the ablative defect and the appropriate size flap

required for reconstruction. The basic reconstruction should therefore be planned preoperatively and in cases where long large flaps are needed, they are delayed a week or more prior to surgery (Fig. 4). The delay procedure is carried out under local anesthesia (in some cases simultaneous with the tracheostomy) a week to ten days prior to the definitive resection. While these flaps may be used without a delay procedure, the delay provides an extra margin of safety by improving the circulation and is felt to be especially important in diabetics, hypertensives and in any patient with a less than optimal vascular system.



Fig. 10. The intraoral view shows the forehead flap lining of the anterior oral cavity. This supple hairless tissue is ideal for intraoral reconstruction and permitted this patient normal speech and swallowing. Arrow's point to the edges of the flap.

Resection

A composite en bloc resection of the involved intraoral tissue, a portion of the mandible, and the neck dissection are frequently necessary for advanced intraoral cancers. The mandible should never be spared at the price of good cancer surgery. Pull-through operations that preserve the entire mandible not infrequently result in piecemeal resection of the primary and neck specimen and are rarely recommended. The neck dissection should thoroughly remove the lymph bearing tissue from the supra-

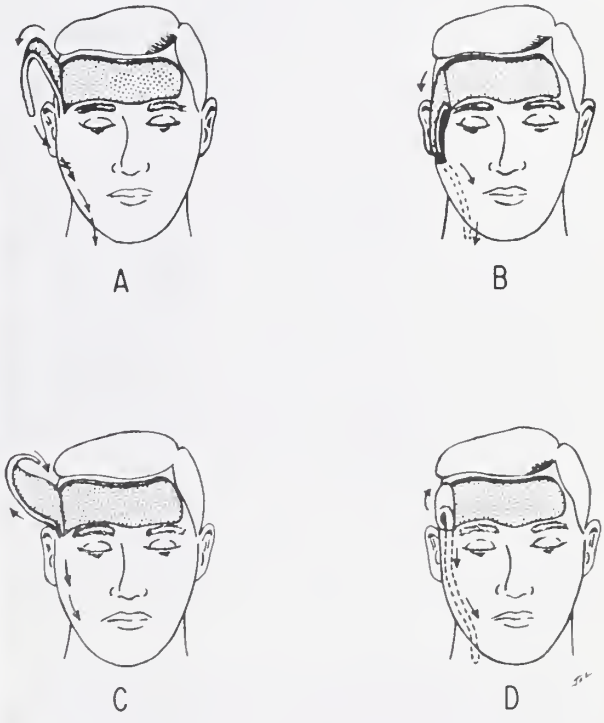


Fig. 11. The two basic methods of bringing the forehead flap into the oropharynx:
A. and B. The McGregor technique uses an outside turn and a small cheek incision. The Millard approach depicted in Figure 8 is a modification of this technique placing the entrance incision in the preauricular region.
C. and D. The Hoopes-Edgerton technique uses the inside turn and an approach directly over the zygomatic arch.
(Permission of the *American Journal of Surgery*, 114:592, 1968(3))

clavicular and posterior triangle areas. The carotid sheath is resected along with the jugular vein carefully preserving the vagus nerve and carotid arteries. The hypoglossal and lingual nerves are carefully protected as injuries to these nerves complicate rehabilitation of speech and swallowing. A bilateral neck dissection is occasionally necessary to achieve a good en bloc resection, but it must be remembered that this procedure carries a high morbidity and significant mortality rate. Whenever possible, a bilateral neck dissection should be done in two stages if it does not compromise good cancer surgery.

The second neck is done approximately four weeks after the first side.

While there is general agreement that the mandible should be resected when there is bony invasion, fixation, or extreme proximity of the lesion, in the past the mandible was frequently resected merely to facilitate

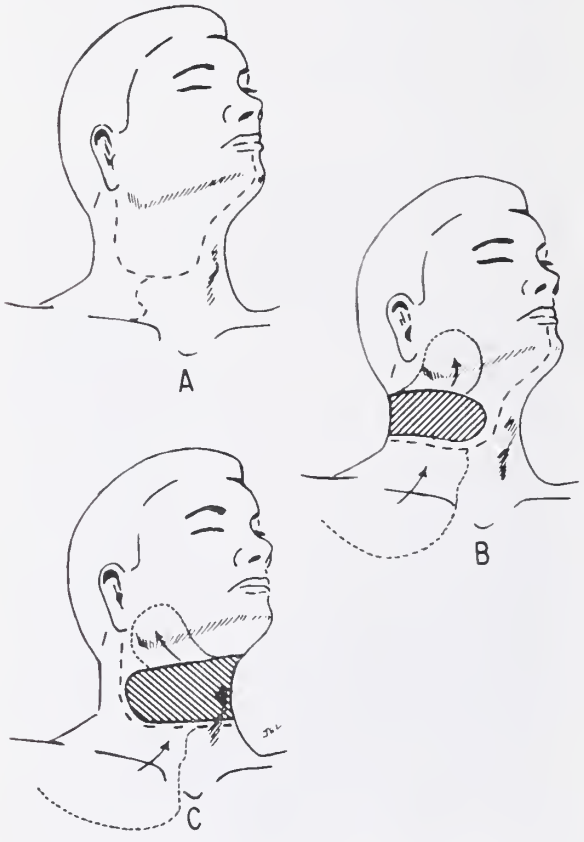


Fig. 12. Simple alteration of the usual neck incisions will permit a cervical flap to be used for intraoral repair. "A" is the classic incision, "B" is modified for an anterior based flap and "C" for a posterior based flap. The chest rotation flaps are frequently necessary to close the neck defect.

(Permission of the *American Journal of Surgery*, 114:592, 1968(3))

exposure and closure. A better alternative is a mandibulotomy, especially for some of the more posterior oral cavity lesions. The mandible is transected, turned outwards for exposure, the resection performed, the mandible returned to its normal position and the ends then wired back together. In an occasional case, merely stripping the periosteum off the mandible or resecting the inner table may provide a sufficient margin around the primary tumor (Figs. 5, 6). The remaining outer table then remains as a strut and markedly reduces the deformity and improves ultimate function. With the use of local flaps adequate closure over the remaining mandible is no longer a problem (Figs. 7, 8, 9, 10). The surgeon who deals with intraoral cancer must have a thorough understanding of the head and neck lymphatic drainage to understand when the mandible can be partially spared and when it must be totally removed.

Exophytic snuff-dipper's carcinoma usually takes a more benign course than the infiltrating ulcerating squamous cell carcinoma and a less radical approach may provide adequate treatment. In these cases, wide local excision and split thickness grafts are usually sufficient. Infiltrating carcinomas are much more common, however. Most infiltrating tongue carcinomas are best treated by hemiglossectomy and neck dissection. In what was previously thought to be the hopelessly advanced cases, Donaldson has shown the value of total glossectomy.[7] The ulcerated infiltrative floor of mouth, tonsillar or lateral pharyngeal carcinomas almost always require a composite resection including a partial mandibulectomy.

Reconstruction

It is most important that the reconstruction be carried out in such a manner that it augments and not compromises the remaining intraoral anatomy. In the past, most intraoral closures were performed merely by pulling the edges of the defect together accepting the distortion of the remaining portions of the tongue, floor of mouth or cheek. This distortion hindered the movement of the remaining oral and pharyngeal musculature and frequently prevented satisfactory speech or swallowing. Only in very small lesions is primary closure possible without compromising function. In the region of the base of the tongue, even smaller sections may cause distortions that markedly interfere with speech and swallowing.

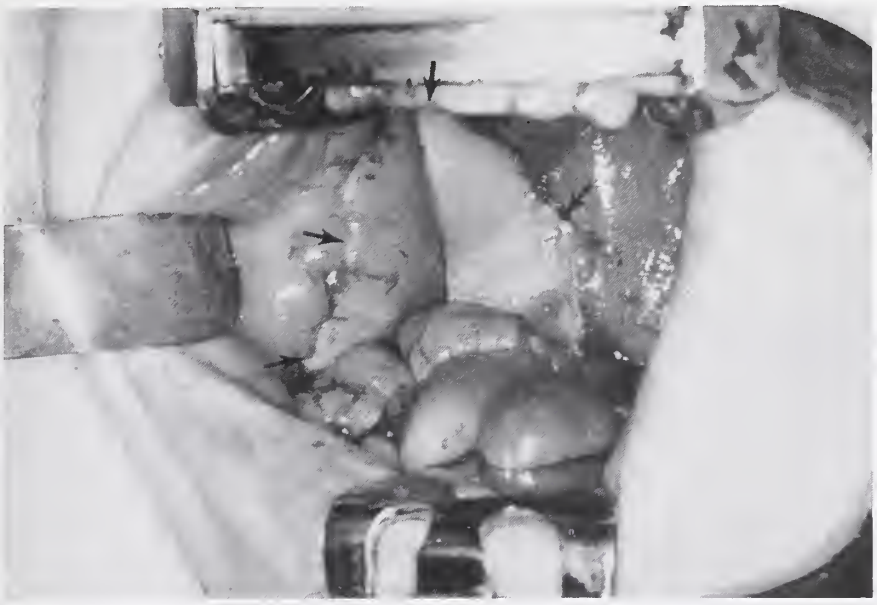


Fig. 13. This intraoral view shows the posterior and lateral pharyngeal reconstruction by a cervical flap. The normal tongue position and function has been preserved. Arrows point to the edges of the flap replacing the entire lateral pharyngeal wall and about one-third of the posterior pharyngeal wall.



Fig. 14. A 62 year old patient had a carcinoma of the posterior oral cavity which required a composite resection. A K-wire was used to replace the body and a portion of the ramus of the mandible. This x-ray was taken six months postoperatively.

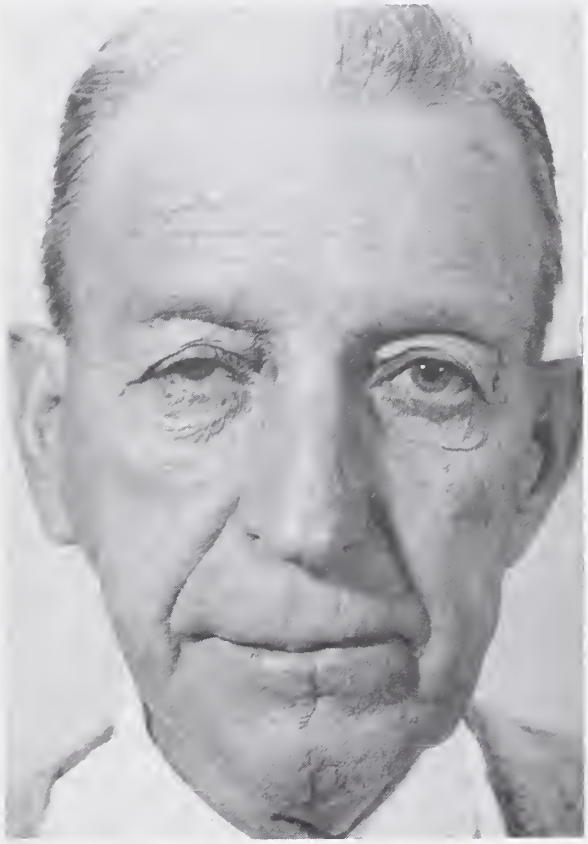
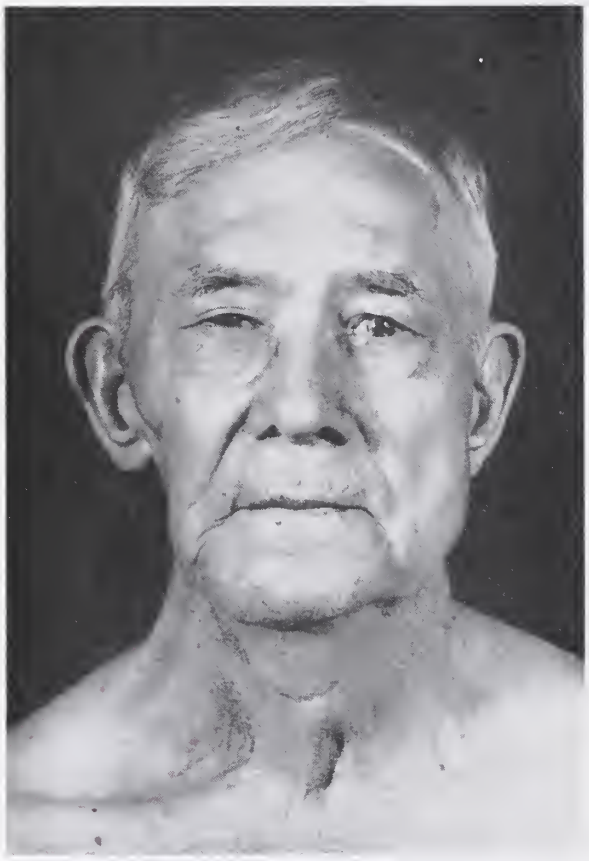


Fig. 15. The patient (x-ray shown in Fig. 14) has a normal appearance and no significant mandibular shift.

With the use of immediate flap reconstruction, distortion can be prevented, normal intraoral anatomy and function can be preserved and the incidence of fistulas and crippling scarring can be markedly decreased.

Local mucosal, tongue flaps and split thickness grafts may be satisfactory for the repair of small and some moderate size lesions that have not been irradiated. In the more extensive lesions these methods are inadequate and in irradiated tissue precarious. Immediate extraoral flap reconstruction is advisable for the more extensive resections and especially in irradiated tissue. The total forehead flap is frequently used as it carries a good blood supply, is hairless, and is easily brought into the oropharynx (Fig. 11). A cervical flap may be used by simple alteration of the usual neck incisions (Fig. 12). Cervical flaps are less ideal because of hair growth and a more precarious blood supply. Pectoral rotation and deltopectoral flaps are useful for neck reconstruction, but may also be used to reconstruct the pharynx[9] (Fig. 4). Whichever technique of reconstruction is used, the final results should leave the remaining tongue and floor of mouth in a normal position (Fig. 13). The forehead flap donor defect can be skin grafted with a very acceptable cosmetic result. The donor sites for the neck and chest flaps can frequently be closed primarily but if too large, may need a skin graft or adjacent sliding chest flap. Generally, whichever type of flap is used, the second stage detachment and set-in of the pedicle is carried out under local anesthesia approximately four weeks later (Fig. 9).

Mandibular reconstruction requires con-





Figs. 16 and 17. These AP and lateral photos show the appearance after a radical composite operation for an advanced T_3N_2 carcinoma of the tonsillar region. The right mandible was disarticulated at the temporomandibular joint and resected anterior to the mental foramen. A forehead flap was used to reconstruct the entire lateral pharyngeal wall and floor of mouth. The patient had practically normal speech and swallowing.

sideration of the portion of the mandible removed and the method of reconstruction that has been used. The posterior body and the ramus of the mandible are rarely reconstructed as the deformity and loss of function is minimal if the attention and care are taken to prevent malocclusion by intermaxillary wiring or guide plane splints. Resection of the anterior or mid-portion of the body or of the symphysis is usually best reconstructed immediately with a Kirschner wire (Figs. 14, 15). Immediate bone grafts have been frequently lost to infection or exposure and add considerably to the length of the procedure and therefore are used only in ideal circumstances. When extraoral flaps have been used for repair the deformity of mandibulectomy is minimized. These flaps supply bulk which fills in the cheek depression. Excellent healing from the flap minimizes scar tissue contractures and mandibular shift (Figs. 16, 17).

We have found two ancillary procedures to be extremely useful in these cases and recommend that they be carried out prior to beginning reconstruction. First, a dermal graft or scalene muscle flap is placed over the carotid artery to provide extra protection from exposure and possible carotid blowout. We have not had any significant flap complications or infections, but we continue to use this extra cover for "insurance". A feeding tube esophagostomy is an excellent alternative to the nasogastric tube.[8] This esophagostomy tube is placed low on the opposite lateral neck to avoid the respiratory complications of a nasogastric tube. It is easily inserted through a simple stab wound and adds only a few minutes to the procedure. This defect closes spontaneously when the tube is later removed.

A liquid diet is usually started on the fourth day and at the end of the first week if swallowing is satisfactory, the tracheostomy is removed. Postoperative rehabilitation then includes fitting with special dentures and in some cases assistance with speech therapy.

Summary

A comprehensive approach has been presented for the treatment of extensive intraoral cancer. Cooperation with the radiotherapy department is emphasized and preoperative irradiation is given in moderate doses.

General plans for reconstruction are made prior to the definitive resection and immediate reconstruction is then carried out at the time of surgery.

The results of this approach are encouraging for good oral function and appearance have been obtained with this technique.

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Reducing Upper Respiratory Tract Infections by Allergy Control and Humidity Control

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Upper respiratory infections are increased when the humidity is reduced. Also patients with allergic tendencies are more susceptible to upper respiratory infections.

EACH FALL AND WINTER most physicians are faced with numerous cases of upper respiratory infections. Not only is this true with patients in his practice, but the problem may occur in members of his own family and the physician himself. The magnitude of the problem, the lack of any practical immunization to the numerous agents involved, and the availability of newer inexpensive mechanical aids to assist these patients makes this a timely subject for review. For too many years we have spent most of our time during the cold weather in surroundings that are excessively heated, inadequately ventilated and completely deficient in proper humidity. This hot dry environment is not only physically uncomfortable, it is frequently harmful to our health. During warm weather we air condition our surroundings for comfort and health. In the winter we heat our surroundings for comfort but neglect to humidify for our health. With the onset of cool weather each fall the windows are closed and the furnace heat is turned on. At the same time the usual head colds and respiratory infections begin, especially in children. The change in the weather is blamed. Actually, it is the drying effect of the heat on the respiratory membranes. During the winter season while we sleep we are exposed to the effects of central heating and protected from the natural outdoor atmosphere by insulated walls and storm windows. During the day we remain in buildings and automobiles which are also overheated and tightly sealed against the external environment. The temperature of our surroundings is seldom below 70 degrees F. and frequently above 80 degrees F. for prolonged periods of time. For good health the respiratory mucosa requires a humidity of 40% to 50%. The humidity content of our surroundings will practically vanish after long periods of overheating.

Proper humidification and heating of inspired air by the nose is extremely important to the function of the lungs. One of the primary functions of the nasal mucous membrane is to supply moisture to the inspired air to give a humidity of 85% when it reaches the lungs. Any alterations in the function of moistening and heating will lead to disturbances in the nasopharynx, and in certain cases in the trachea and bronchi. The moisture produced by the nasal mucous membrane represents a surprisingly large amount. Foster[1] stated the nose supplies twelve to eighteen ounces of water each twenty four hours varying with the temperature and the amount of moisture in the inspired air. If the air is unusually dry an additional strain is placed on the mucosa to supply more moisture. The mucous blanket

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protects the respiratory membrane from drying. It also prevents invasion of microorganisms. Fleming[2] described the presence of lysozyme in the mucus. It is a bacteriocidal proteolytic enzyme. Hilding[3] reported a sharp reduction of the lysozyme content of nasal mucus preceding and during the invasive stage of the common cold. Particles of dust, bacteria, and other inhaled foreign materials become entangled in the mucus. Ciliary motion propels the mucus into the pharynx where it is swallowed. Acid secretions in the stomach destroy the contaminants in the mucus. The mucous film is moved by ciliary activity from the front to the back of the nose every 20 or 30 minutes. As the secretion flows away it is constantly being replaced by more from the mucous and serous glands in the membrane. Dry air thickens the mucus and reduces ciliary motion. Excessive dry air will cause marked destruction of the columnar cells. The dry mucous membrane then becomes permeable to bacteria and viruses. Penetration of bacteria or viruses through a normal mucous membrane is very unlikely. Reduced function will result from drying and infection will follow. The majority of ear, nose, and throat problems during the winter months are probably the result of physiological failure of the mucous membrane.

The respiratory mucous membrane, by repeated exposure, may become sensitized to dust, pollen, and other allergic antigens in the environment. Its reaction to these agents may then resemble and be confused with the mucosal reaction to a bacterial invasion. The nasal membrane can become one of the main shock tissues of the body and the most prominent area of allergic symptoms. Patients with allergic tendencies are much more susceptible to respiratory membrane changes than normal persons. With prolonged exposure to dry heat extensive and repeated symptoms may occur. The nonallergic individual is less susceptible with the same exposure. He may have difficulty remembering the last time he had a respiratory illness. House dust, mold spores, and fungi are the most important factors in respiratory allergy during the fall and winter months. Many allergists use extracts of house dust routinely in the diagnosis and treatment of their patients. The symptomatic use of antihistamines to assist the control of respiratory symptoms in these allergic patients is of decided value. Evaluation and treatment by an allergist may be required if control of recurrent disease cannot be obtained.

Disease of the respiratory membrane is usually spread by droplet infection after expulsion by sneezing or coughing. Minute infective droplets will dry very rapidly in an atmosphere of low relative humidity. The infective agent will then float about invisibly in the air. It will remain as a source of infection as long as the bacteria or virus remains viable. Bacteria and viruses live in a delicately balanced state. Any disturbance of their equilibrium is incompatible with the complex life of the cell. On the other hand, if the environment is favorable the life of the cell is prolonged. Dunklin and Puck[4] studied pneumococcus, type 1, sprayed into the atmosphere. They observed a very high mortality rate at relative humidities between 40 and 55 percent. However, at humidities below this value the organisms survive for longer periods. Hemolytic streptococcus group C and staphlococcus exhibited the same general patterns. Lester[5] observed the infectivity of atomized influenza A virus to decrease markedly when the humidity was raised to 50%. He concluded that the relative humidity may constitute one of the most important factors in determining the survival of respiratory pathogens issuing from an infected host. McDade and Hall[6] studied the survival of Escherichia Coli, Salmonella Derby, Pseudomonas Aeruginosa, Proteus Vulgaris and Proteus Morgani. They found these gram negative bacteria to have an accelerated death rate when exposed to humidities near 50%. Few viable organisms were recovered

from the atmosphere with a relative humidity of 50% after 24 hour exposure. No viable organisms could be recovered after 48 hour exposure. They concluded the environmental humidity tends to exert a pronounced effect on the viability of gram negative bacteria.

Relative humidity is the amount of moisture in the air for a given temperature expressed as a percentage. Higher temperatures have a greater capacity to hold moisture than lower temperatures. The amount of humidity in the air gradually reduces as you continue to heat your home. Therefore, you must continuously add water to the air to maintain a healthful humidity level. How much water is really needed? A good rule-of-thumb is to add one gallon of water per room per day during the winter heating season. A small pan of water on a stove or radiator is not capable of supplying a fraction of the moisture actually needed. Ideally you should try to humidify the entire home. An optimum indoor atmosphere during the winter would be a temperature of 70 degree F. with a relative humidity of 50%. Many good humidifiers are now available to the public. The physician who treats respiratory illnesses should become familiar with several of these units. He will then be able to advise his patients regarding their use, availability and cost. When forced hot air is the system of heating in the home a central furnace humidifier is preferable. These units will vaporize water and distribute the fine particles through the hot air duct system. They have a constant water supply pipe and a control to regulate the amount of water added to the heated air. Homes with steam, electric, or other forms of radiant heat cannot be humidified in this manner. Inexpensive units are now available to humidify one or several rooms independent of the heating system. They atomize water and place very small moisture particles into the air. These particles diffuse rapidly and spread equally throughout adjacent rooms. Console models will add approximately 10 to 15 gallons of water to the air every 24 hours. Table top units will supply approximately five gallons every 24 hours. Small portable plastic units are available in most drug stores. They will atomize approximately one-half gallon of water every eight hours. Humidification is needed most in the bedroom. Drying of the nasal and pharyngeal mucosa occurs more readily during sleep. The rate and depth of respiration reduces when we rest. When only a small unit is used in the bedroom the door to the hall must remain closed. Otherwise the dry air from the hall and other areas of the home will cause too rapid a dispersion of the humidity produced with no concentration remaining in the bedroom. Increasing humidity will assist the allergic individual by reducing the quantity of inhalant antigens in the air. During the treatment of congestion or infection of the respiratory membrane humidity control will assist the membrane to respond to therapy and regain its natural physiologic function. Recovery is hastened and complications from the illness may be prevented. The continued use of the humidifier even following apparent recovery should allow most patients to avoid recurrences even with exposure to infection from other persons.

During the cold weather of the preceding winter over 350 humidifiers were prescribed for patients visiting my office with upper respiratory complaints. Only a few questions were required to obtain a clear picture of the environmental heating situation and evidence of respiratory allergy. An explanation of the value of humidity control and the symptomatic use of antihistamines was readily accepted by the patients. Symptomatic relief was obtained in nearly all patients. Congestion of the nose, sinuses and ears disappeared. Nasal breathing was improved to allow a more restful sleep. Morning dryness of the nose and throat subsided. Patients being treated for an initial infection had a more rapid response. Complications did not develop. Recurrence of the

symptoms was practically eliminated. After a period of two weeks with allergy control and humidity control a more normal function of the respiratory membrane was obtained.

For many years extensive programs have been carried out in an attempt to control the problem of respiratory tract infections. A great deal has been learned regarding the numerous viruses and bacteria which are responsible. However, the diseases continue to recurr as frequently as before. Vaccines have been developed to control some agents. A practical polyvalent vaccine to prevent most infections is still not available. Until some specific answer to the problem is found, individual patients must be assisted to maintain the proper function of the respiratory membrane, thus allowing them to be less susceptible to infection. Too much emphasis seems to be placed on the type of antibiotic to be prescribed. Unfortunately, the prevention by correcting the basic causes, especially in the recurrent or stubborn cases, is not considered in most instances.

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Let's Reminisce!

Little Things in Medicine.

(Quoted from a paper by Dr. N. B. Herring, Wilson, N. C. (*N.C. Med. Journal*, Feb. 1888))

Nose Bleed—How to Stop It. Take a piece of tough, raw, fat, salt pork, cut it wedge shaped, four inches long, half inch thick and three-quarters of an inch wide. Force it into the bleeding cavity—*clear through into the pharynx*—and the work is done. It is antiseptic, painless and never fails to stop the haemorrhage. It is easily removed.

The Flannel Jacket. When you have a case of chest cold, pneumonia or bronchitis in a child, make a close-fitting flannel jacket to reach from the clavicle to the lower ribs; saturate this with a mildly stimulating liniment, and sew it tightly around the child's chest. It is worth more than all the blisters, mustard-plasters, cups, etc., in existence. I let my little patients wear them several weeks and sometimes all winter, occasionally applying the liniment. About the best liniment I have used is composed of—castor oil, 4 parts; spts. camphor, 2 parts; spts. turpentine, 1 part; tinct. cantharides, 1 part. (Reprinted from Virginia Medical Monthly, March 1888)

Profound Acidosis in Newborns and Infants Requiring Emergency Operations

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Case reports support the concept that interruption of the progressive acidosis cycle by administration of Tham or bicarbonate improves the general response in the metabolic reserves. This improvement may be temporary but allows time for correction of the defect by operative means.

THE FACTORS leading to the development of significant respiratory and metabolic acidosis in infants have become better understood in recent years. The identification and correction of the acidosis and its resulting electrolyte abnormality have become almost routine for the surgeon and anesthesiologist. This is particularly true of the pediatric and cardiovascular surgeon treating infants with congenital abnormalities. These are most often encountered in the neonatal age group. The severity of the acidosis and the rapidity of its development are demonstrated most dramatically by the distressed infant with a congenital cardiac abnormality. This group of patients may manifest profound rapid developing changes in their acid base balance and electrolytes.[1,2,3,4,5,6]

It has been emphasized by Huckabee and others,[7,8,9,10] that one of the major sources of increased non-volatile acids in the system is that resulting from the changes in the conversion of lactate to pyruvate. The demonstration that this conversion proceeds at a normal rate in the presence of a normal oxygen concentration, pCO_2, pH and temperature and its reversal under conditions of low pO_2, pCO_2 pH and temperature has led to the understanding that the ratio of lactate to pyruvic acid reflects the degree of excess lactate produced by anoxic glucose metabolism. If the lactate-pyruvate ratio remains normal, an excess of lactate is not produced. One may be confident that anoxic glucose metabolism is not occurring.

In the presence of anoxia, hypothermia or reduced pCO_2, the enzyme system appears to be blocked or reversed, and the conversion to pyruvate does not take place, leading to the accumulation of excess lactic acid, and the resulting profound metabolic acidosis.

Although many of the factors that influence the lactate production have been known for some time, they have not been readily appreciated by all clinicians. For example, the fact that hypothermia or lowered pCO_2 produced by over-ventilation lead to the development of metabolic acidosis is often overlooked.[11,12,13,14] These two features are common occurrences in a modern, air-conditioned operating room, with ventilation being produced by a mechanical respirator. The hyperventilation may be the result of the patient's disease with changes in lung dynamics, such as those that are produced by cardiac failure, or small peripheral areas of atelectasis.[1,2]

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Considerable shifts in the intracellular electrolytes will occur as a response of either an extracellular alkalosis or acidosis. Of particular interest are the electrolytes potassium, sodium, calcium and magnesium. The rapid changes in the intracellular concentration of these electrolytes produced either by metabolic acidosis or respiratory alkalosis may be one of the important sources of cardiac arrhythmias associated with severe distress or hyperventilation at the time of surgery.[13,15,16] Figure 1 depicts our modification of the equation which influences myocardial irritability. That these factors are multiple and the interrelationship complex is obvious.

MYOCARDIAL IRRITABILITY

Na^+, Ca^{++}, OH^{--}, LOW pCO_2, HYPOTHERMIA, DIGITALIS

K^+, Mg^{++}, H^+, TRIS, QUINIDINE

Fig. 1. A further modification of Loeb's equation of of muscle irritability.

Over the past several years we have become increasingly aware of the profound changes in acid-base balance manifested by the severely distressed neonate, for whom emergency operation is necessary to relieve a life threatening congenital abnormality. Our original experience was obtained in infants operated upon immediately following cardiac catheterization or a severe anoxic episode. As our experience grew and profound changes were identified and corrected, we became convinced of the marked benefit to the patients when they were treated properly.

That severe acidosis is present in many neonates with life threatening conditions has been substantiated by studies in over thirty patients suffering from a wide variety of abnormalities. For the purpose of emphasizing the management of this acidosis, the case histories and laboratory data of three patients of this group will be presented in this communication.

Methods

The pH's are obtained with the Radiometer pH meter. The pCO_2's are both calculated from the conventional nomograms or our computerized modification of these nomograms[17] and are obtained by a pCO_2 electrode and pO_2 by electrode.[18] The technique of Sigaard-Andersen has been used in calculating the base excess.[17,19] This term as devised by Astrup indicates a measurement of the unbuffered hydrogen ions produced by non-volatile acids. The major non-volatile acid is lactic acid. The base excess is essentially the difference in standard bicarbonate noted in blood of normal hemoglobin when it is fully saturated with oxygen, at a temperature of 37.5° C, pCO_2 of 40 mm of mercury and a pH of 7.37 compared to that of the patient. Blood is obtained by arterial puncture with a fine needle,[20] or arterialized capillary blood, and in some patients from a central venous sample via a catheter in or near the right atrium.

If the patients serum sodium is low, we correct the metabolic acidosis with sodium bicarbonate, being cautious about using sodium bicarbonate when a respiratory acidosis is combined with a metabolic acidosis. If the patient's serum sodium is normal or if the infant has poor cardiac or renal function, we use Tham® to correct the acidosis.[21,22] The Tham solution is made up in 5% dextrose and water. If the acidosis is so severe that a large volume of 0.3 molar Tham is indicated, we then use 0.6 molar Tham. This solution is quite alkaline and will cause damage to vein walls, so that one must be certain a cannula is in a large venous channel for the administration of Tham. The bicarbonate or Tham solution is usually administered over a period of half to one hour. In the presence of a severe acidosis, it is then administered in a shorter time. Repeated electrolyte and blood gas studies are

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Tham®-2-amino-2 (hydroxymethyl) -1, 3 propanedial, Abbott Laboratories.

essential to proper management of these abnormalities.

Case Presentation

A 3.0 kilogram white male infant was delivered following a normal term pregnancy. The Apgar score was 9. Within one hour following delivery, however, the infant showed progressive signs of respiratory distress. He became cyanotic when out of an oxygen enriched atmosphere. Chest x-ray at this time disclosed the presence of a left diaphragmatic hernia (Fig. 2). At the time



Fig. 2. Chest x-ray at two hours of age. All the small intestine and large intestine except the left colon fill the left chest. The heart and mediastinum are displaced to the right with compression of the right lung.

of transfer to the hospital at seven hours of age, the infant exhibited severe respiratory distress, with cyanosis, poor response, but continued vigorous respiratory effort. His temperature was 35.8°C. The chest had a distended appearance; the heart tones were heard best in the right chest; the only audible breath sounds were heard posteriorly in the lower right lung field. The abdomen was scaphoid. The infant was immediately placed in a pre-heated isolette with a 40% oxygen concentration. His head was elevated 45 degrees. Blood was drawn for blood count, cross-match, and a heparinized sample drawn for the acid base studies. An intravenous cutdown was performed.

The initial acid base complex showed a severe respiratory and metabolic acidosis (Table 1). The actual pH was 7.02, with a

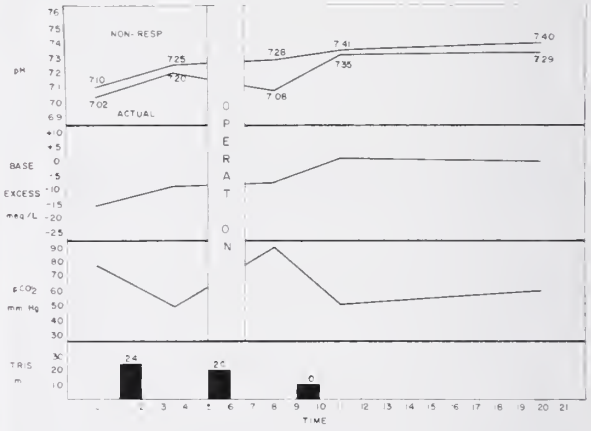


Table 1

Results of serial studies performed on Case I. Note that the studies performed the morning after surgery showed normal base excess and a persistence of a mild degree of respiratory acidosis. During the operation, the patient received 30 ml. of ACD blood, in addition to the 20 ml. of Tham.

calculated non-respiratory metabolic pH of 7.15. The pCO_2 was 77 mm of mercury and the base excess was -15.7 mEq/L. Serum electrolytes were normal.

In the next hour, the patient was given 24.0 ml. of 0.6 molar Tham. During this time it was noted that his cyanosis became less severe, the peripheral circulation improved, the patient voided, passed meconium and appeared more alert. At this point, repeat acid base studies showed an actual pH of 7.20, a non-respiratory pH of 7.25, a pCO_2 of 49 mm of mercury and a

base excess of -9.2 mEq/L. The patient's temperature was now 37.2° C.

With improvement of the acidosis it was felt that operative correction of his anatomical defect could now be done. During the operation of one and a half hours, his temperature remained normal. Anesthesia was maintained by active respiration through an endotracheal tube, with minimal added mechanical assistance. The hernial contents included the left lobe of the liver, the left kidney and the entire intestinal tract, except for the left colon, and were easily reduced and the defect closed. Closure of the entire abdominal wall was accomplished.

During the operative procedure, the patient was given 20 ml. of 0.6 molar Tham and 30 ml. of whole ACD blood. On return to the Intensive Care Unit the patient awakened immediately, continued with spontaneous respirations and evidence of fair peripheral perfusion.

Acid base studies, however, showed a decrease in his actual pH to 7.07, while his non-respiratory pH increased to 7.28. The base excess was -7.6 mEq/L, but the pCO_2 was 90 mm of mercury. Chest x-ray at this time demonstrated the cause for the severe respiratory acidosis. A large amount of air was trapped in the left chest resulting in displacement of the mediastinum and right lung (Fig. 3). The air pressure in the left chest was regulated by the previously inserted, but clamped thoracotomy tube. The airway was cleared by gentle endotracheal suction. The patient's respirations improved and following an additional 10 ml. of 0.6 molar Tham, acid base studies showed an actual pH of 7.35, a non-respiratory pH of 7.41, and a base excess of +0.8 mEq/L. The pCO_2 was 60 mm of mercury. Chest x-ray showed his mediastinum to be in the midline (Fig. 4).

The infant was maintained in a humid atmosphere with 30% oxygen concentration for an additional 24 hours. Repeat acid base studies 12 hours postoperatively showed little change. The patient convalesced without difficulty; his left lung expanded progressively and he was discharged home on his 12th postoperative day.



Fig. 3. Postoperative chest x-rays, disclosing the large amount of air trapped in the left chest with a significant displacement of the mediastinum.

Discussion

This case clearly demonstrates the rapidity and degree of severity with which the acidosis may develop in a patient with a respiratory anomaly.[23] The hypoxia and hypercarbnia from the restricted respirations gave rise to the respiratory component of the acidosis. Simultaneously, the hypoxia aggravated by decreased peripheral vascular perfusion and hypothermia gives rise to the metabolic acidosis. The metabolic acidosis in this patient was partially corrected prior to operation. No studies were performed on the arterial blood during the operative procedure, but it is very common to find an

extremely low pCO_2 due to the hyperventilation of the good functioning lung in these patients. This may lead to the further development of metabolic acidosis and could conceivably be the reason that this infant was found to have a persistent metabolic acidosis after surgery.



Fig. 4. Postoperative chest x-ray following the adjustment of pressure in the left chest and endotracheal suctioning. The mediastinum is now returned to the midline.

The magnitude of the respiratory acidosis as the result of the marked shift in the mediastinum compressing the one functioning lung, and its prompt correction, further emphasizes the rapidity at which these changes can occur.

Case II is a male infant admitted to the hospital at the age of three and a half weeks because of severe respiratory distress which had developed a few days prior to admission. Physical examination on admission revealed a baby who was slightly cyanotic with intercostal and suprasternal retraction. He had a respiratory rate of 80/min. and a pulse rate of 160/min. The liver was enlarged 5 cm. below the costal margin. There was no peripheral edema. Chest x-ray on admission revealed a marked cardiac enlargement (Fig. 5). The electrocardiogram was interpreted as showing marked left ventricular hypertrophy and strain. The clinical diagnosis as the result of myocardial enlargement and electrocardiographic abnormality was endocardial fibroelastosis.

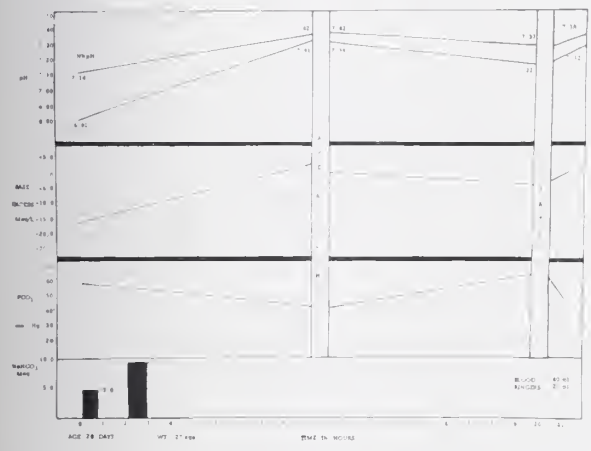
The baby received digitalis, diuretics, low salt diet and gradually came out of failure. As he responded to the treatment of his failure, it became apparent that the pressures in the upper and lower extremities were unequal. The pressure in the upper extremity by oscillometer was 60 mm higher than that of the lower extremity. The digitalis dose was increased.

One week after this baby had been admitted to the hospital, he developed a sudden cardiac arrest, while the Department of Cardiology was making their afternoon rounds. He was immediately intubated and closed chest cardiac massage was instituted. Electrocardiographic monitor disclosed that his arrest was the result of ventricular fibrillation. He was defibrillated by closed chest electrical shock. Cardiac arrest occurred at 4:20 in the afternoon. Studies done ten minutes later (Table 2) disclosed a base excess of -16 and a severe acidosis. He received 5 milliequivalents of sodium bicarbonate immediately. Previous studies have indicated that infants treated for several weeks with digitalis, diuretics and low sodium diet, often have sodium deficits. His sodium was 130 mEq/L, potassium was 5.2 mEq/L and chlorides of 100 mEq/L. Thirty minutes later he received an additional 10 milliequivalents of sodium bicarbonate. He responded well to this, becoming pink and vigorous. He was able to take his evening feedings without tiring.

The following morning he had cardiac

catheterization performed. Acid base studies disclosed a base excess of +1.0, a pH of 7.41 and a non-respiratory pH of 7.418. At cardiac catheterization the aortic oxygen saturation was 89%. The left ventricle and

TABLE 2



Case II. The changes in pCO_2 and base excess produced by bicarbonate and subsequent operation. The immediate changes in pCO_2 from relief of heart failure occurs within one hour of operation.

ascending aorta had a pressure of 220 mm of mercury. There was a gradient across the coarctation of 120 mm. The infant did not develop any acidosis during the cardiac catheterization which was performed with sedation, but not anesthesia, and during which time he received 30 cc. of citrated blood.

Post-catheterization femoral arterial blood pO_2 was 54 mm of mercury, and an oxygen saturation of 85%.

The following morning a coarctation of the aorta was resected and a ductus obliterated. Acid base studies before and after surgery disclosed essentially no metabolic acidosis, but a respiratory acidosis with a pCO_2 of 65 before surgery. During the operation the infant received 20 ml. of Ringer's solution and 40 ml. of citrated blood. Studies performed an hour after surgery disclosed no metabolic acidosis and the pCO_2 was 49 mm. of mercury reflecting a relief of the respiratory distress.

One week after surgery, the marked changes in the electrocardiogram reverted entirely to normal, indicating this baby does not have significant endocardial fibroelastosis. This was substantiated by the findings of normal left ventricular end diastolic and systolic volumes at the time of cineangiography studies. The baby was discharged from the hospital 12 days postoperatively and has continued to do well (Fig. 5).

Comment. This baby emphasizes the importance of acid base studies in a patient who has had a cardiac arrest. It clearly demonstrates the profound effects of immediate correction of the acidosis. It is possible that the arrest in this infant was precipitated by digitalis toxicity, since the fibrillation occurred approximately four and one-half

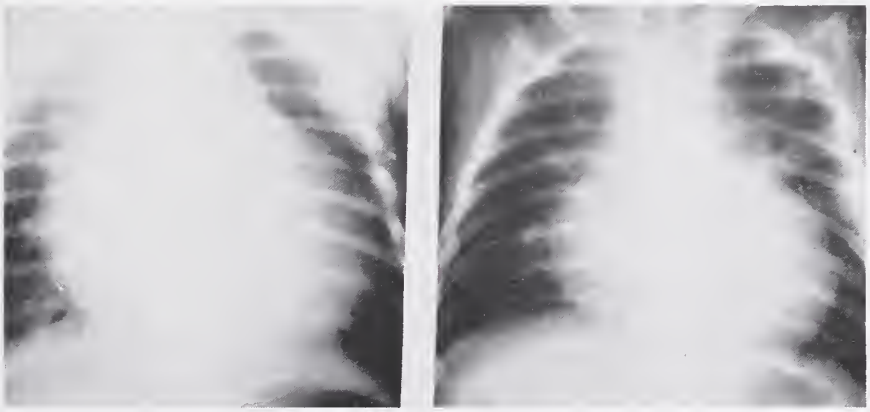


Fig. 5. Case II. The large heart present before operation contrasts with the changes in size occurring three weeks after operation.

hours after receiving an increased dose of Digoxin.

Case III. This baby was born with erythroblastosis, as a result of Rh incompatibility. He had three siblings who had died as the result of Rh incompatibility. Because of rising antibody titers, the infant had received two intrauterine transfusions, via amino-paracentesis. This infant is one of several in whom we have performed serial studies during three or more exchange tranfusions. Blood is obtained from the umbilical vessels of the infant before exchange transfusion. A sample of the donor blood is obtained. Tham is then added to the donor blood to correct the degree of acidosis present in the donor blood, as well as in the infant. The final samples, after the exchange transfusion, are taken from the umbilical vessels of the infant.

TABLE 3

	EXCHANGE I 4 PM			EXCHANGE II 9 ...			EXCHANGE III 3 AM			EXCHANGE IN CARDIAC ARREST 10 AM			3 PM
	BEFORE	DONOR	AFTER	BEFORE	DONOR	AFTER	BEFORE	DONOR	AFTER	BEFORE	DONOR	AFTER	
BILIRUBIN Mgm. %	14.7		0.5	13.4		4.0	15.6		5.3	16.5		8.7	18.8
NON RESPIRATORY pH	7.25	7.09	7.33			7.385			7.37			7.42	
pH	7.30	6.80	7.22			7.44			7.36			7.40	CARDIAC ARREST
pCO_2 mm Hg.	33.5	110	60.0			31.5			41.0			44.	
BASE EXCESS meq/L	-9.2	-17.5	-4.2		-21.0	-1.0		-15	-2.0		-12	+4.0	
SODIUM meq/L	139	157	139			140			142				
POTASSIUM meq/L	4.4	4.35				4.55			4.95				
CALCIUM meq/L	4.8					4.7			5.9				
BLOOD SUGAR mgm. %		40										43	
TRIS 0.6 M	800 ml.			63 ml.			60 ml.			0			
CALCIUM GLUCONATE 10%	3.5 ml.			5.5 ml.			4.25 ml.			1.5 ml.			
SODIUM BICARBONATE meq										7 ml. INTO HEART 0.4 ml. EPINEPHRINE			

BIRTH WEIGHT 2.5 kgs.
TWO INTRAUTERINE TRANSFUSIONS

The serial studies performed during three exchange tranfusions. The extreme abnormality in donor blood and a very ill infant are additive and may lead to death.

Before the first exchange, this infant had a moderate metabolic acidosis, as reflected by a base excess of -9.2 (Table 3). It was partly compensated for by a respiratory alkalosis with a pCO_2 of 33.5. The donor blood disclosed a very severe degree of metabolic acidosis, as well as a surprising degree of respiratory acidosis, with a base excess of -17.5 and a pCO_2 of 110. The profound hypoglycemia found in the donor blood is at the level frequently seen in donor blood used to prime extra corporeal apparatus. Eighty ml. of 0.6 molar Tham was added to the donor blood, and after the exchange transfusion the base excess was 50% corrected. The infant had developed some degree of respiratory acidosis. Five hours later it became necessary to perform a second exchange. The donor blood was not fully analyzed at any subsequent exchange, but a base excess of -21 in the donor blood was identified. The infant's status following the exchange disclosed a relief of the metabolic acidosis and some persistence of the respiratory acidosis, raising the possibility that the infant was developing some respiratory insufficiency on the basis of a primary respiratory disease. Six hours later it became necessary to exchange the baby for the third time. The base excess of -15 was identified in the donor blood; this was corrected by utilizing 6 ml. of 0.6 molar Tham. The

post-exchange data disclosed normal base excess, normal pCO_2's and normal electrolytes. Seven hours later the infant was exchanged for the fourth time; a donor blood of base excess of -12 was identified, but, unfortunately, complete studies were not carried out nor was any solution used to correct the degree of acidosis in the donor blood.

After 240 ml. of blood had been exchanged, the infant developed cardiac arrest. We then saw this infant and 7 ml. of bicarbonate was given into the heart, and 0.4 ml. of 1 to 1,000 adrenalin was injected also into the heart and the heart was resuscitated. The infant went to the Intensive Care Unit in good condition with normal reflexes and appeared to make a satisfactory recovery from this short period of cardiac arrest.

Five hours later the infant required his fifth exchange, and before any exchange was carried out or studies performed, the baby developed irreversible cardiac arrest and expired.

Comment. It is felt that these studies clearly demonstrate the profound metabolic changes occurring in an infant with severe erythroblastosis, and further confirmed the findings of a significant degree of metabolic acidosis in donor blood. One questions whether these infants can handle the citrate in a normal manner, since they are probably suffering from an adrenal response, similar to that associated with surgery or trauma, and, consequently, may have interference with the usual renal mechanisms.[24,25] If this is so, a late alkalosis as the result of metabolism in the citrate may not develop, and the metabolic acidosis may be unduly prolonged.

Discussion

The presence of severe metabolic acidosis in a neonate infant who is in poor general condition is felt largely to be a reflection of poor peripheral tissue oxygen saturation resulting from a low cardiac output, or inability to fully saturate the oxyhemoglobin as a result of right to left shunts within the lung or within the heart. This is further aggravated by the frequent occurrence of hypothermia in these infants. Studies on other patients clearly indicate that production of excess lactate is a rapidly occurring chemical reaction. The stimulus for its development does not have to be present very long before the body's ability to compensate for its excess lactate is exceeded. Patients with peripheral anoxia, whether from cardiac or respiratory origin, often have excess lactate precipitated by the peripheral anoxia. These patients are not able to compensate for the metabolic acidosis because of their respiratory or cardiac insufficiency.[26,27,28]

Excess lactate production may also be stimulated by a low pCO_2, produced by hyperventilation resulting either from abnormal Hering-Breuer reflexes in the lung, or from carotid aortic chemoreceptors, a reflection of oxygen want.[29]

The development of a respiratory alkalosis as the result of hyperventilation in the operating room is a phenomenon we wish to emphasize.[29] These patients produce considerable lactic acid in order to compensate for the respiratory alkalosis produced by the ventilator. When these infants are no longer hyperventilated as they leave the operating room, they may develop a respiratory acidosis, perhaps as the result of the change in pulmonary dynamics from a thoracic incision or upper abdominal incision.[30,31] This respiratory acidosis is now superimposed on a metabolic acidosis resulting from the excess lactate produced. If this acidosis is profound, these patients may no longer be able to tolerate the combined metabolic and respiratory acidosis. The respiratory alkalosis produced by over-ventilation is avoided in our operating room by constant monitoring of alveolar pCO_2 using a capnograph.

Several important secondary phenomena results in the low pCO_2. There is evidence that low pCO_2 occurring as the result of hyperventilation under anesthesia causes an increased resistance to cerebral blood flow.[32]

This may account for some of the memory loss phenomenon or the slow awakening after anesthesia, in which patients have been overventilated.

The excitability of the conduction mechanism in the heart of an experimental animal is considerably increased by the production of a low pCO_2. This appears to be unrelated to the pH change and of interest, Tham has been demonstrated to cause a decrease in the excitability. Even when given in sufficient dose to produce an alkalosis, it appears that Tham has some intrinsic quality which decreases the excitability of the myocardium.[33] This may be an additional reason for using Tham buffer in treating the acidosis found in these patients.

The development of a significant degree of lactic acidosis in lowered pH's will cause an increase in the pulmonary vascular and airway resistance, as well as myocardial depression accompanying the accumulation of lactic acid in the electrolyte shifts in the body fluids.[33,34,35,36,37] The increased oxygen consumption resulting from increased work of respiration only adds to the already overloaded demands for oxygen. The end result of this abnormal cycle is total cardiovascular collapse and death. With these profound changes as noted in the patients reported here, the added stress of an operative exposure and manipulation, blood loss and anesthesia may hasten this total collapse.

Although we have emphasized in this presentation the seriousness of the acidosis produced, the main fact is probably the result of electrolyte shifts occurring secondary to the acidosis. The dangers of overcorrecting metabolic acidosis using Tham, which has a very high pH, must constantly be kept in mind when utilizing this drug. We feel that an over-corrected metabolic acidosis to the extent of creating a metabolic alkalosis may be more harmful to the patient than the preexisting acidosis.

No adverse effects have been noted when Tham is administered in doses calculated by the "base excess" method. Because of reports of respiratory depression,[22] however, the necessary equipment to provide assisted respiration is immediately available at the bedside. Tham is administered in a solution with glucose. This fact may help prevent the hypoglycemia due to potentiation of circulating insulin and depressed glycogen stores as described by Bennett.[38] No excessive bilirubinemia requiring active treatment has been noted. In the doses calculated for these severely ill infants, no over-correction of the acidosis has resulted.

Moore[24] has emphasized the fact that we live our lives fighting off a metabolic acidosis, that the total body's renal mechanisms are tuned to this, as well as to ward off dehydration, and that we actually live on our extremes of compensation for an alkalosis. Our compensatory mechanism for an iatrogenic produced metabolic alkalosis is limited indeed.

The above described cases will support the concept that interruption of the progressive acidosis cycle by administration of Tham or bicarbonate improves the general response in the metabolic reserves of the patient. This improvement may be temporary if the underlying abnormality is not corrected, but it allows sufficient time for correction of the primary defect by operative means. Certainly, the change in many patients has been so immediate and dramatic that a previous moribund patient becomes an acceptable candidate for operative correction of the basic underlying abnormality.

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Burn Scar Malignancy

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Burn scar cancer occurs frequently in old burn scars subject to frequent irritation. Malignancy may occur infrequently in recent burns or burn scars. Wide radical excision is the treatment of choice.

THE TERM MARJOLIN'S ULCER has been used for many years to describe malignant changes occurring in burn scars. Jean Nicholas Marjolin wrote his paper on cancer growing in scars in 1828 but actually did not describe malignancies arising in burned areas.[1] Marjolin described malignant degeneration of scars which had resulted from gunshot wounds, compound fractures and various avulsions of the skin. Heurteux in 1860 reported in the literature the first true case of burn scar cancer of the skin.

The true incidence of burn scar cancer is unknown; however, it is not uncommon. Broders[2] reported that 24.5% of all cancers of the extremities originate from burn scars. In another series, 30 cases of burn scar cancer were found in 2,465 cases of skin cancer.[3] Burn scar malignancies have been reported in many races, and although burns are more common in females, 78% of Marjolin's ulcers occur in males.

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The age of the patient at the time of the burn appears to relate to the time required for a malignancy to develop in burn scars. The younger the patient at the time of the burn, the longer the time required for a maligancy to develop. Patients burned before the age of five usually develop a malignancy after a 40-50 year latent period, while those patients burned past the age of 50 have a shorter latent period of up to nine years.

Most authorities feel that burn scar malignancies are caused by chronic stimulation of scar with motion, irritation and ulceration. Irregular epithelial surfaces, plus the presence of a chronically draining or irritated wound, or the retention of various surface dirt and materials with uncleanliness of the wound over a thin scar epithelium appear to be important factors in the formation of this type of cancer. Foreign bodies and charred material may occasionally be found within the tissue of burn scars. Kennaway[4] has demonstrated that human skin subjected to destructive distillation yields a tarry material possessing carcinogenic properties. It is possible that the heat produced by a burn will chemically change the burned tissues so that the burn scar itself is carcinogenic. Burn scar cancers usually occur in areas that have not been grafted. Only rarely has a malignancy been reported in or near grafted areas.

The usual histology of burn scar malignancy is that of a squamous cell carcinoma. These tumors may invade muscle, tendon or bone, but distant metastases usually occur late due to the surrounding dense scar tissue. Basal cell carcinomas appear with less frequency than squamous cell carcinomas.

Malignant potential is apparently also contained within deeper structures adjacent to a burn as various sarcomas, such as fibrosarcomas, liposarcomas and carcinosarcomas have been reported occurring in burn scar malignancies.[5]



Fig. 1A. Squamous cell carcinoma in burn scar—forty year latent period.
Fig. 1B. Carcinosarcoma in burn scar—eleven year latent period.
Fig. 1C. Squamous cell carcinoma in burn scar—thirteen year latent period.
Fig. 1D. Basal cell carcinoma in cigarette burn on face—three month latent period.

Most burn scar malignancies occur in irritated contracted areas where constant usage causes excoriation, then ulceration and thickening of scar tissue bands over a prolonged period of time. When an ulceration occurs in such an area, the diagnosis should immediately be suspected. Fortunately most early ulcers in old burn scars are not malignant; however, when a biopsy negative for malignancy has been reported in such an ulcer, the obligation of the physician has not been completed. It is mandatory that this ulcer be excised and the burn scar contracture corrected, for if such an irritated area is left to remain over a prolonged period of time, a burn scar malignancy is likely to develop in the future. If the burn scar ulcer biopsy is negative for cancer, a plastic repair of the irritated scar area should be performed to prevent later malignant degeneration. If the biopsy is positive, wide radical resection is essential. Good medical care following acute burn resurfacing demands the removal of all dense scar banding and contractures prior to the actual formation of ulceration or irritation in order to prevent burn scar malignancy.

Malignancies may also occur in acute

burns. Cancers which occur in areas acutely burned may have been already existing at the time of the burn; however, certain cases exist in which the skin had previously been examined by competent physicians only a few days prior to a burn and in which no evidence of malignancy was noted. Malignancies have developed in acute burns as early as 4-12 weeks postburn, and on healed or granulating surfaces which were apparently normal prior to the burn. Any unusual ulcerating, growing, granulating area on a burn surface should be suspect and adequate biopsies obtained.



Fig. 2A. Extensive squamous cell carcinoma of scalp—thirty-eight year latent period.
Fig. 2B. Following radical excision and visor type flap to cover entire top of head.

Treatment

Wide surgical excision is the treatment of choice. When regional nodes are involved, they should be resected in continuity with the lesion if possible. X-rays and radium have proven to be of no real benefit in the treatment of burn scar malignancy because of the abnormal scar tissue surrounding the malignant area. It cannot be emphasized too strongly that adequate treatment of burn scar malignancy consists primarily of the prophylactic excision and revision of all burn scar contractures and of all burn scars which show irritation at any time after



Fig. 2C. Burn scar cancer scalp preoperative.
Fig. 2D. Burn scar cancer scalp postoperative.

primary healing, prior to the actual formation of malignancy.

Prognosis

The prognosis of burn scar cancer is poor. In spite of its slow clinical course, frequent metastases occur. Burn scar malignancies on the trunk and face have a worse prognosis than those on the extremities. Acute burn scar malignancies appear to have a better prognosis because most of these lesions are histologically basal cell carcinomas and are superficial.

Legal opinions vary as to whether burns should be recognized as a direct etiological agent causing cancer. Certain court decisions have been rendered to the effect that under specific conditions monetary awards can be given for the production of cancer by industrial accidents which caused burning of the skin at a site where cancer later formed. Chronic burn scar malignancies occur many years after the original burning. Because no accurate medical opinion can be given as to the chances for the development of burn scar malignancy in any industrial injury, in general no award is given to the man with a burn to recompense him for his added potential of forming cancer in later years. How best to solve this problem must be left up to the legal profession until a more perfect method of diagnosing and assessing the formation of malignancies in general can be found.

We have treated 17 patients in the past ten years with malignant degeneration of burn scars. One patient has succumbed from intracranial extension of the lesion four years following surgery. The remainder are alive and well following wide radical excision and regional node dissection where indicated. It can never be over-emphasized that the responsibility of the physician does not cease when a burn scar malignancy has



Fig. 3A. Squamous cell carcinoma in old burn scar—thirty-five year latent period.

Fig. 3B. Following radical excision and neck dissection.

Fig. 3C. Following restoration of ear with prosthesis.

been excised and the defect closed. The body of this particular patient should be inspected minutely for other burn scar areas which may be showing surface irirtation, ulceration, contracture or other symptoms. Since malignant potential has been demonstrated to exist in this individual patient, it is mandatory that all suspected areas be excised and grafted to prevent the formation of later serious disease.

4. Careful correction of old burn scar irritation and contractures should prevent the formation of most burn scar malignancies.

5. Once a burn scar malignancy has developed, wide radical excision (including the regional lymph nodes if involved) is the treatment of choice. Radiation therapy is not indicated in the treatment of burn scar malignancy.



Fig. 4A. Irritated area on opposite neck, same patient as in Figure 3. Note depigmentation and scaling of skin with early ulceration.
Fig. 4B. Following excision and split thickness grafting. Pathology report "Carcinoma in situ". Prevention of malignancy by excision and reconstruction of all irritated areas is mandatory.

Summary

1. Burn scar cancer occurs frequently in old burn scars subject to frequent irritation. (Chronic burn scar cancer)

2. Malignancy may occur infrequently in recent burns or burn scars. (Acute burn scar cancer)

3. Burn scar malignancies may be of varied histological types such as squamous cell carcinoma, basal cell carcinoma, carcinosarcoma and other types of sarcomata.

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Cervico-Auricular Fistulae

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A case of cervico-auricular fistula is presented. Its embryology, diagnosis and treatment are discussed.

ANOMALIES of the first branchial cleft are rare and, as a consequence, may be unrecognized or improperly treated. As suggested by Whitson[1] and Bill,[2] however, the lesion is more common than appreciated. A review of its appearance, embryology, anatomy and treatment is worthwhile.

Case Report

A. S., a three year old female was noted shortly after birth to have an abnormal dimple beneath the angle of the mandible anterior to the left sternomastoid from which issued an occasional drop of clear discharge. There was no history of a mass or infection. The maternal grandmother had had a similar lesion of the neck with chronic drainage. On examination a 2 mm. sinus opening was noted within the dimple and a second sinus opening in the inferior external auditory canal (Fig. 1). The tympanic membrane was normal. The diagnosis of cervico-auricular fistula was made and she was admitted to the King's Daughters Children's Hospital for elective surgery on November 7, 1968. Under general anesthesia the fistula was demonstrated by the passage of a tear duct probe (Fig. 2). A small transverse elipse of skin was excised around the cervical orifice and a thick-walled tract containing yellow material removed intact by sharp dissection. The fistula coursed superficial to the posterior belly of the digastric muscle, through the substance of the superficial lobe of the parotid gland external

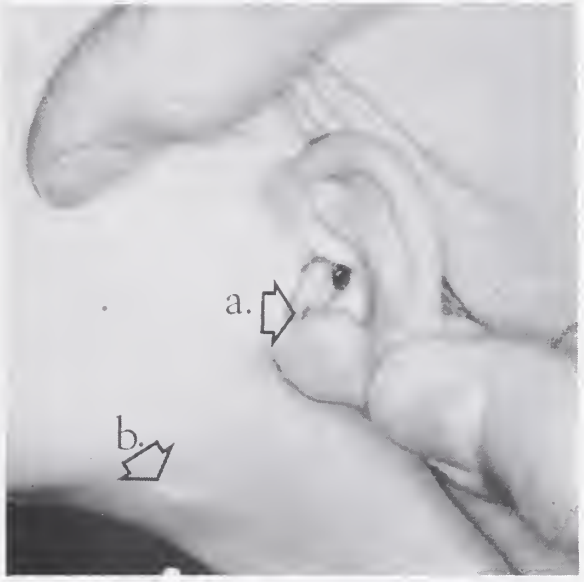


Fig. 1. a. Auricular opening in external auditory canal. b. Opening in lateral cervical area.

to the main trunk of the facial nerve and terminated in the external auditory canal.

No attempt was made to close the incision within the ear. Recovery was uneventful and she was discharged the following day. The course since surgery has been entirely satisfactory.

Embryology

The branchial apparatus is first seen in the human embryo around the third week of gestation and is complete by the seventh week.[6] The first branchial cleft is a groove between the first and second of the five arches, and enters into the formation of the external auditory canal. Obliteration of this cleft occurs along a line from the lateral

hyoid bone to the external auditory canal. A failure of obliteration of the first cleft will leave an ectodermal tract along this anatomical pathway (Fig. 3). If the rem-

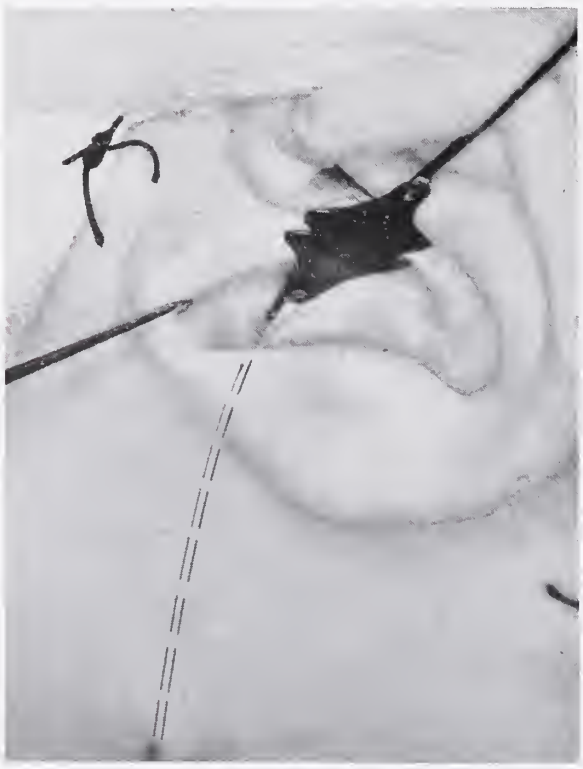


Fig. 2. Probe in external auditory canal opening. Dotted line shows course to cervical opening.

nant has no external communication it is likely to form a cyst. One persistent external opening will result in a sinus tract or a tract leading to a cyst. The most common anomaly is total failure of obliteration, resulting in a fistulous tract whose inferior opening will lie somewhere along a line between the lateral hyoid and external auditory canal, most often just beneath the angle of the mandible. The superior opening will be found at or within the external auditory canal.

From the viewpoint of the surgeon, it is important to mention the variable but close relation of the cervico-auricular fistula to the facial nerve. Since the nerve leaves the brain stem via the second branchial arch and terminates in an area derived from the first and second branchial arch, it invariably passes near any first cleft remnant. In the majority of reported cases the fistula passes superficial to the nerve. In a significant proportion, however, including both of DeBord's cases,[3] the fistula courses deep to the nerve.



Fig. 3. White dots show occurrence of cervical opening. Black dot shows the patient, A.S., reported here.

Diagnosis

Although embryologically related, first cleft anomalies are entirely distinct from the much more common second branchial anomalies and pre-auricular sinuses. Sinuses, cysts and fistulas from the second cleft lie along a line from the lower anterior border of the sternomastoid, pass between the bifurcation of the carotid artery and terminate in the lateral pharnyx (Fig. 4). Pre-auricular sinuses derive from incompletions in the first and second branchial arches with no contribution from the intervening first cleft. Location of the external opening should serve to differentiate between these three lesions, and the presence of a second sinus opening within the ear is found only in first cleft anomalies.

A chronically draining cervical adenitis may be confused with infected first bran-

chial cleft sinus or fistula. Both occur charteristically beneath the angle of the mandible. With the increased incidence of atypical tuberculous adenitis in children this differential may be difficult. Drainage from the external ear with intact tympanic membrane, or visualization of an external auditory canal sinus would be expected only in cervico-auricular fistula, however.

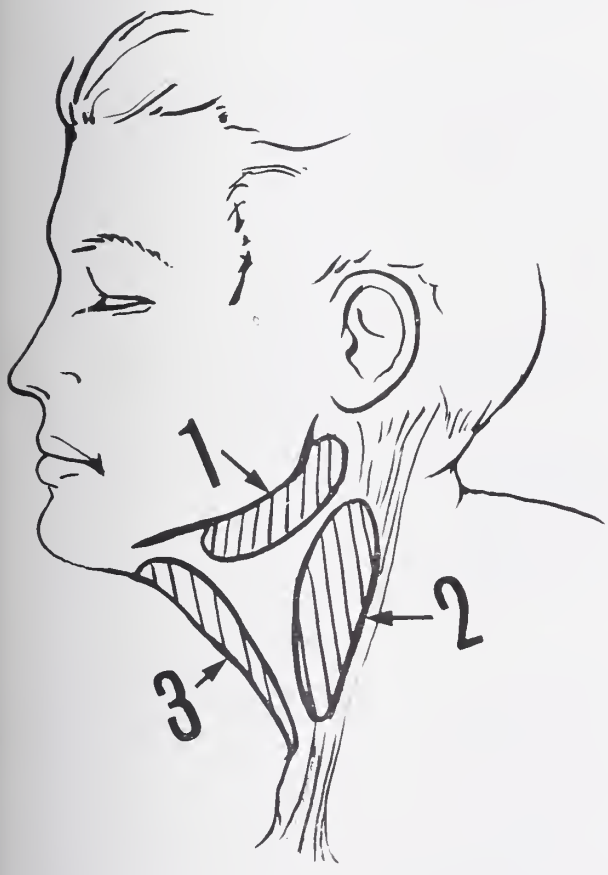


Fig. 4. (1) Location of first branchial cleft cysts and fistulae. (2) Location of second branchial cleft cysts and fistulae. (3) Location of thyroglossal duct cyst in midline.

Injection of contrast medium for x-ray diagnosis has been done but generally is unnecessary and is not recommended. The introduction of a probe prior to anesthesia is painful and dangerous. Injection of methylene blue-hydrogen peroxide mixture may be useful in determining the interior fistula opening proving a communication into the external auditory canal.[4]

Cervico-auricular fistulae, being congenital, are most often noted in the pediatric age group. There appears to be no sex or race bias, and they are usually unilateral.

Treatment

Surgical excision is the treatment of choice and should be recommended at the time of diagnosis, hopefully before infection occurs. The high incidence of obstruction and secondary infection strongly recommends early treatment. Once infection is encountered, drainage and delayed excision is necessary. Operation following previous infection is invariably more extensive and more apt to be followed by recurrence. Damage to the facial nerve, the surgeon's greatest concern in excision, is more frequent when operating through scar tissue. If the fistula is superficial, sharp dissection under direct vision is satisfactory. If the tract courses deep within the soft tissue or extensive scar is present, a formal dissection of the facial nerve is indicated in conjunction with excision of the fistula.

Discussion

With less than forty cases in the world literature first branchial cleft anomalies are considered extremely rare. However, the finding of one in eighty-two cases of branchial anomalies in an early report,[5] and another author having reported five cases in a personal series,[2] it appears that the anomaly may be more common than previously recognized. The early onset of infection, the frequency of protracted drainage, and a recurrence rate of over fifty percent following surgery suggest that the lesion deserves more attention than it has received.

Summary

A case of cervico-auricular fistula, an anomaly of the first branchial cleft, is presented. Its embryology, diagnosis and treatment are discussed.

(*References continued on page* 413)

Demonstration of Esophagitis by Acid Barium Swallow

Correlation with Esophagoscopy and Esophageal Biopsy

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A series of patients with clinical symptoms of esophagitis was evaluated using the acid barium swallow technique and esophagoscopy.

RADIOGRAPHIC DEMONSTRATION of a hiatal hernia per se has little significance since the majority are asymptomatic. Esophageal ulceration or strictures are easily recognized, but these represent advanced disease. The x-ray diagnosis of early esophagitis continues to present a difficult problem.

Donner[1] and his associates at Johns Hopkins Hospital have described a method of demonstrating the presence of early esophagitis using acidified barium and cinefluoroscopy.

The authors have evaluated a group of patients by this technique in which the degree of esophagitis was documented by esophagoscopy and esophageal biopsy. The purpose of this presentation is to report the value of this examination in recognizing esophagitis.

Technique

Donner's method of adding acid to barium to form a mixture with a pH of 1.7 was used. Twenty drops (1 cc.) of concentrated hydrochloric acid are added to 100 cubic centimeters of ordinary barium mixture.

Following ingestion of plain barium, the patient is given multiple swallows of acid barium. In normal patients, progressive peristaltic waves traverse the entire esophagus with both plain and acid barium.

In patients with esophagitis, the acid barium causes spasm or dilatation of the esophagus, reversal of peristaltic waves and prolonged retention of barium within the esophagus.

Cine recordings are obtained in most cases.

Results

As a control series, ten asymptomatic volunteers were examined. None exhibited abnormal changes when given the acid barium mixture.

Between October 1966 and March 1968, 91 patients were examined using this technique. In this group, 31 patients were esophagoscoped. In each instance, some degree of esophagitis was visualized. This was proven by esophageal biopsy in 29 of these 31 patients.

The acid barium swallow technique revealed abnormal peristalsis indicative of esophagitis in 25 (81%) of the group of 31 patients with endoscopically proven disease. Sixteen patients had normal peristalsis with plain barium and abnormal activity when given acid barium.

In nine of these patients with positive

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findings, abnormal peristalsis occurred following ingestion of plain barium. However, the acid barium intensified these reactions.

A false negative acid barium swallow examination occurred in six patients. However, three of these patients had obvious evidence of advanced disease. Two had severe strictures and one a narrow Schatzki's lower esophageal ring. In each of these patients, esophagoscopy revealed that esophageal obstruction prevented reflux of gastric secretions.

Therefore, in only three patients (10%) was the acid barium swallow negative for esophagitis in whom no other significant esophageal pathology was evident except for the presence of a hiatal hernia.

Discussion

Gastro-esophageal reflux is frequently associated with esophagitis, but consistent demonstration of reflux is difficult.

Crummy[2] has described a method of eliciting reflux by swallowing water with a barium filled stomach. This correlates with an increased evidence of esophagitis but the technique does not actually demonstrate the presence of esophagitis.

Bernstein's[3] acid perfusion test is helpful in reproducing the symptoms of esophagitis. However, intubation of the esophagus is uncomfortable for the patient and time consuming for the physician.

Donner's technique provides a simple and safe method of demonstrating the presence of esophagitis. It is easily combined with the standard barium swallow which is necessary to evaluate the status of the esophagus. Donner reports a 100% correlation in a group of patients examined by both the acid perfusion and acid barium swallow techniques. His evaluation of a larger group of patients with clinical esophagitis revealed 90% positive acid barium studies. This is comparable to our results in which the esophagitis was proven by endoscopy and biopsy.

Summary

A series of 31 patients with clinical symptoms of esophagitis was evaluated using the acid barium swallow technique and esophagoscopy. The esophagoscopic and esophageal biopsy findings were correlated with the results of the acid barium examinations. The acid barium swallow revealed evidence of esophagitis in 80% of the group. Three patients in whom advanced esophageal obstruction prevented reflux of gastric secretions had no peristaltic changes. Only three patients (10%) had a false negative result with no other evidence of major esophageal disease except a hiatal hernia. The acid barium swallow technique is a valuable and accurate test in evaluating the patient with suspected esophagitis.

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Jejunal Diverticulitis with Acute Perforation

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Jejunal diverticula, an infrequent x-ray and operative finding, may develop serious complications which can be corrected by surgical treatment. The clinical significance of this entity is presented with emphasis on the complication of acute inflammation with perforation. If this complication is recognized and treated, more than 85% of patients can be expected to survive.

JEJUNAL DIVERTICULOSIS is an infrequent x-ray and operative finding and is usually asymptomatic. However, jejunal diverticula may develop serious complications which can be corrected by surgical treatment. The clinical significance of this entity will be presented with emphasis on the complication of acute inflammation with perforation.

Historical Review

The first description of jejunal diverticulosis was published by Soemmering in 1794 according to Fischer.[1] In 1807, Sir Astley Cooper[2] included illustrations of jejunal diverticula in a monograph on hernias. In 1881, Osler[3] reported the autopsy findings of 55 jejunal diverticula in one individual.

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The first patient operated upon for a complication of this disease was described by Gordinier and Sampson[4] in 1906. Intestinal obstruction caused by jejunal diverticulitis was successfully treated.

In 1923, Helvestine[5] noted the constant appearance of the diverticula on the mesenteric border near the perforations of the intestinal vessels. In a detailed description published in 1936, Edwards[6] observed that the sacs are simply acquired herniations of mucosa passing through the jejunal wall.

Incidence

The incidence of jejunal diverticulosis recognized on x-rays of the small intestine ranges from 0.08% to 0.4%. Edwards[6] observed four cases in 4,631 examinations and Orr[7] nine cases in two 161 studies.

The autopsy finding of jejunal diverticula ranges from 0.2% to 1.3%. Altemeier[8] reported 50 cases in 19,000 autopsies, Brown[9] 16 instances in 8,000 postmortem examinations, and Rosedale[10] four cases in 300 autopsies.

Pathology

Two types of jejunal diverticula occur—acquired and congenital. Acquired diverticula appear more frequently and are usually multiple. These are false diverticula which present on the mesenteric border of the jejunum between the leaves of the mesentery (Fig. 1).

The congenital variety is much rarer and is usually solitary. This is a true diverticulum, containing all layers of the bowel wall, and arises from the anti-mesenteric border of the jejunum (Figs. 2 and 3).

Complications

The incidence of complications developing in jejunal diverticula ranges from 4% to 26%. Lee[11] reported two complications in 45 patients, Baskin[12] nine in 87 patients, and Altemeier a high of 16 complications in 62 individuals with jejunal diverticulosis.



Fig. 1. Typical appearance of multiple acquired diverticula lying between the leaves of the jejunal mesentery.



Fig. 2. Typical appearance of solitary congenital diverticulum arising from anti-mesenteric border of intestine.

The various complications that develop in jejunal diverticula are listed in Table 1.

TABLE 1.

COMPLICATIONS OF JEJUNAL DIVERTICULA

Inflammation (13)
Perforation due to Inflammation (14)
Perforation due to Trauma (15)
Obstruction due to Adhesions (12)
Obstruction due to Volvulus (16)
Chronic Pneumoperitoneum (17)
Hemorrhage (18, 19)
Jejunal Dyskinesia, Acute or Chronic (8, 12, 20)
Malabsorption Syndrome (21, 22, 23)

Most of these are the same complications that can arise in diverticula in any location in the intestinal tract.

Altemeier applies the term "jejunal dyskinesia" to a situation which has been described by Baskin and Jensen.[20] In the presence of multiple jejunal diverticula, abnormal intestinal motility may occur which results in a segmental ileus simulating intestinal obstruction.

Another entity which is associated with jejunal diverticulosis is a mal-absorption syndrome manifested by a macrocytic anemia and steatorrhea.[21,22] Watkinson[23] corrected these symptoms by excising the jejunum containing the diverticula.

Perforation Due to Inflammation

Perforation associated with acute jejunal diverticulitis has been reported in 35 patients. Three additional cases are presented here (Table 2).

Case 1. A 40 year old, white male with a past history of duodenal ulcer was admitted with a 24 hour history of severe abdominal pain. Abdominal x-rays revealed free air. Preoperative diagnosis was perforated duodenal ulcer. Exploration revealed perforation of a solitary, congenital, jejunal diverticulum located close to the ligament of Trietz. Following segmental bowel resection, the patient made an uneventful recovery.

Case 2. A 52 year old, Negro female

presented with a history of recurrent abdominal pain for 20 years, tarry stools for five days, and severe abdominal pain for two days. Preoperative diagnosis was perforated



Fig. 3. X-ray demonstration of congenital diverticulum arising from proximal jejunum near ligament of Trietz.

TABLE 2

PERFORATION WITH ACUTE JEJUNAL DIVERTICULITIS

Author	*Year*	*Age*	*Sex*	*Type*	*Treatment*	*Result*
Christie	1922	48	F	Congenital	Resection	Survived
Spackman	1926	75	M	Acquired	Resection	Survived
Fraser	1933	30	F	Acquired	Resection	Survived
Butler	1933	72	F	Acquired	Resection	Survived
Butler	1933	56	M	Acquired	Resection	Died
Butler	1933	72	F	Acquired	Resection	Died
Butler	1933	64	M	Acquired	Resection	Died
Flynn	1933	49	M	Congenital	Resection	Survived
Gerster	1938	51	M	Acquired	Operation Not Described	Survived
Kozinn	1941	2	F	Congenital	Operation Not Described	Died
Dodson	1941	62	F	Congenital	Operation Not Described	Survived
Benson	1943	57	F	Acquired	No Operation	Died
Walker	1945	62	F	Acquired	Resection	Died
Shutkin	1945	53	F	Congenital	Resection	Survived
Rateliffe	1950	36	F	Acquired	Resection	Survived
Phillips	1952	62	F	Acquired	Resection	Survived
Thorek	1954	69	M	Congenital	Resection	Survived
Slater	1953	74	M	Acquired	Invagination	Survived
Slater	1953	79	M	Acquired	Invagination	Survived
Dunlop	1954	59	M	Acquired	Resection	Survived
Nanson	1956	59	M	Acquired	Resection	Survived
Halperin	1957	75	M	Acquired	Closure of Perforation	Survived
Halperin	1957	76	F	Acquired	Closure of Perforation	Survived
Navarre	1958	69	M	Congenital	Resection	Survived
Hesketh	1959	61	M	Acquired	Resection	Survived
Hesketh	1959	64	M	Acquired	Closure of Perforation	Survived
Silen	1960	70	M	Acquired	Closure of Perforation	Survived
Markowitz	1960	74	F	Acquired	Closure of Perforation	Survived
Herrington	1962	52	M	Acquired	Resection	Survived
Triedman	1962	86	M	Acquired	No Operation	Died
Lavelle	1963	59	M	Acquired	Resection	Died
MacBeth	1964	82	F	Acquired	Resection	Survived
Martin	1965	52	F	Acquired	Resection	Survived
Martin	1965	78	F	Acquired	Resection	Survived
Elliott	1965	60	F	Acquired	Resection	Survived
Vansant	1968	40	M	Congenital	Resection	Survived
Vansant	1968	57	F	Acquired	Resection	Survived
Vansant	1968	33	F	Acquired	Closure of Perforation	Survived

duodenal ulcer. Exploration revealed a gangrenous, perforated, false, jejunal diverticulum containing a fecolith. Multiple diverticula were present. The patient made an uneventful recovery following segmental bowel resection.

Case 3. A 33 year old, three months pregnant, white female with known jejunal diverticulosis was admitted with a 12 hour history of abdominal pain. The diagnosis pre-operatively was perforated jejunal diverticulitis. Exploration revealed a perforated, false diverticulum surrounded by an abscess. Treatment consisted of simple closure with application of an omental patch. Recovery was uneventful.

In this series of 38 patients, the age ranges from two to 86 years. However, 31 patients were over 50 years of age. The sex distribution was equally divided.

Thirty patients had acquired, multiple diverticula and eight patients a congenital, true diverticulum.

The technique and result of treatment are presented in Table 3. Twenty-five patients were treated by excision of the involved area. Eight patients had either simple closure of the perforation or invagination of the diverticulum. The majority of deaths occurred prior to the availability of antibiotics. More than 80% (31 patients) of the group survived. Excluding the two patients who were not operated upon, the survival rate is 86%.

TABLE 3

TREATMENT OF PERFORATED JEJUNAL DIVERTICULA

Treatment	*Patients* No.	%	*Survivors* No.	%
Resection	25	(66)	21	(55)
Closure of Perforation	6	(16)	6	(16)
Operation Not Described	3	(8)	2	(5)
Invagination	2	(5)	2	(5)
No Operation	2	(5)	0	(0)
Totals	38	(100)	31	(81)

Conclusions

Although jejunal diverticulosis is uncommon, it does present complications of particular interest to the surgeon. The history, incidence, pathology and complications of this entity have been presented. The complication of acute perforation in the presence of jejunal diverticulitis was emphasized. Three additional cases are added to the 35 patients previously reported in the literature. If perforation of a jejunal diverticulum is recognized and treated, more than 85% of patients can be expected to survive.

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The Changing Status of the Emergency Room

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The increase in emergency room visits and the reasons for this growth is presented.

IN THE PAST 25 YEARS, the emergency room has changed from a limited area treating only emergency problems to a complex department serving as a clinic open 24 hours a day. In many aspects, it is replacing the function of the family physician.[3]

Numerous reasons are given for these changes:[1,2,3,4]

1. Physicians are not available at night, on week-ends and on holidays.
2. The public is aware that the hospital is open 24 hours each day.
3. The number of accidents, primarily automobile, have increased.
4. The emergency room is being used for services previously performed in the physician's office.
5. Third party payment is available for emergency room care.
6. Population growth has increased the need for the emergency room.
7. Patients wish to economize by by-passing the private doctor's office.
8. Increased population mobility leaves many families without family doctors.
9. Industry, schools, police and fire departments tend to refer sick or injured patients to the emergency room.
10. The number of general practitioners are decreasing as specialists increase.
11. Private physicians refer more to the emergency room.
12. The large concentration of low-income groups in metropolitan areas utilize the emergency room.
13. Transportation to the emergency room is no longer a problem.
14. Patients try to avoid disturbing their private physicians.
15. Full time private doctors in the emergency rooms are attracting more private patients.

The emergency room problems will become increasingly complex in the future. The United States Public Health Service predicts a 19% population increase in this decade. Accompanying this will be a 29% increase in hospital admissions and a 112% increase in emergency room visits.[3]

In view of the changing position of the emergency room in present medical care, the authors have analyzed various aspects of an emergency room in a 650 bed general hospital located in a metropolitan area of 700,000 people.

This study was compiled at Norfolk General Hospital which is located in Norfolk and surrounded by Chesapeake, Portsmouth, and Virginia Beach. The population of these cities has grown from 575,000 to 700,000 in the last eight years.

Facilities

The emergency room is staffed 24 hours a day by one full time physician who has a contract with the hospital to see private patients and by an intern who treats all clinic patients. The intern has access to a full staff of residents and attending physicians. Private physicians practicing in the

area frequently meet their patients in the emergency room.

The department has its own laboratory and x-ray facilities. No operating rooms are located in the emergency room except for a fracture room. All major surgery is done in the main operating suite. No follow up care is provided by the emergency room.

Statistical Material

A review of a one year period was compiled from the emergency room records. These statistics are tabulated in Table 1.

TABLE 1

ANALYSIS OF PATIENTS TREATED IN NORFOLK GENERAL HOSPITAL EMERGENCY ROOM MAY 1967 THROUGH APRIL 1968 (12 MONTH PERIOD)

Treated and released	37,286 (88%)
Admitted through emergency room	5,172 (12%)
Total Visits	42,458 (100%)
Non-private patients (clinic)	23,290 (55%)
Private patients—Treated by full time emergency room physician	13,025 (31%)
Private patients—treated by attending staff	6,143 (14%)
Total	42,458 (100%)
Specialty	*Patients*
Surgery	13,587 (32%)
Obstetrics-Gynecology	2,547 (6%)
Medicine	17,832 (42%)
Pediatrics	8,492 (20%)
Total	42,458 (100%)

In a twelve month period, May 1967 through April 1968, 42,458 patients were seen in the emergency room. Eighty-eight percent of patients received treatment and were released. A total of 19,168 private patients were treated. The full time physician in the emergency room managed 70% of this group.

An additional analysis of 5,224 charts of patients treated during a five week period—July 1 to August 5, 1968—was compiled. During this time, the senior author was working in the emergency room. This data is presented in Table 2.

The percentages for each category recorded in this table correlate closely with those for the twelve month period (Table 1).

An average of 150 patients were seen each day. Saturday was the busiest day averaging 163 patients. Thursday was least busy with an average of 142 patients. The maximum number of patients seen in a 24 hour period during this analysis was 190 patients (Table 3).

TABLE 2

ANALYSIS OF PATIENTS TREATED IN NORFOLK GENERAL HOSPITAL EMERGENCY ROOM JULY 1, 1968 THROUGH AUGUST 4, 1968 (5 WEEK PERIOD)

Treated by:	*No. of Patients*
House staff	2,960 (56%)
Full time emergency room physician	1,600 (30%)
Attending staff	718 (14%)
Total	5,224 (100%)
Treated and released	
Non-private patients	2,611 (50%)
Private patients	2,052 (39%)
Admitted through emergency room	
Non-private patients	306 (6%)
Private patients	253 (5%)
Total	5,224 (100%)
Specialty	*Patients*
Surgery	1,555 (30%)
Obstetrics-Gynecology	336 (6%)
Medicine	2,167 (41%)
Pediatrics	1,166 (23%)
Total	5,224 (100%)

TABLE 3

AVERAGE NUMBER OF PATIENTS SEEN EACH DAY OF WEEK (Five Week Period)

Day	*No. of Patients*
MONDAY	156 (15%)
TUESDAY	147 (14%)
WEDNESDAY	148 (14.1%)
THURSDAY	142 (13.6%)
FRIDAY	143 (13.6%)
SATURDAY	163 (15.6%)
SUNDAY	148 (14.1%)
TOTAL (Average/week)	1,047 (100%)

More patients were seen during the evening hours. Three thousand two hundred and sixty-six patients were seen between 12 noon and 12 midnight as compared to 1,958 between midnight and noon.

An equal number of Caucasian and Negro patients were seen—2,560 white patients (49%) and 2,664 Negroes (51%).

The sex distribution was equally divided.

The majority of patients (57%) were under 30 years of age (Table 4). The largest

TABLE 4

PATIENT VISITS ACCORDING TO AGE RANGE
(Five Week Period)

Age Range (Years)	*No. of Patients*
0-9	993 (19%)
10-19	888 (17%)
20-29	1.097 (21%)
30-39	679 (13%)
40-49	627 (12%)
50-59	470 (9%)
60-69	261 (5%)
70+	209 (4%)
	5,224 (100%)

group was the 20-29 age range (21%). A similar trend was reported by Kluge.[4] However, in his series the largest group was in the 0-9 year age range.

The majority of patients were Norfolk city residents (67%). The next largest group came from Chesapeake (18%). Chesapeake has no hospital facilities (Table 5).

TABLE 5

PATIENT VISITS ACCORDING TO DISTRIBUTION OF CITIES
(Five Week Period)

Locality	*No. of Patients*
Norfolk	3,500 (67%)
Chesapeake	940 (18%)
Virginia Beach	366 (7%)
Other Localities	313 (6%)
Portsmouth	104 (2%)
TOTAL	5,224 (100%)

Virginia Beach provided the largest group (7%). Virginia Beach has one general hospital and no facilities for clinic patients.

The smallest group (2%) came from Portsmouth. Portsmouth has two general hospitals which care for clinic patients and a large Navy hospital.

A total of 313 patients (6%) from localities other than the immediate vicinity were treated during this five week period.

Nature of Emergency Room Complaints

The major question that prompted this study concerns the number of visits that constitute true emergencies or necessary visits. Most emergency rooms report that half of all visits are non-urgent, chronic problems. One-third are the result of accident or trauma. The remainder are acute medical and non-traumatic surgical problems.[1]

Emergency room visits were divided into two categories—necessary or unnecessary visits. Necessary visits include patients who need to see a physician within 24 hours. This includes acute infection, lacerations, fractures and acute pulmonary or cardiac problems. Patients in whom no urgent condition is present but who have potentially serious problems are included in this category. Examples of this group are patients with chest pain, abdominal pain and accident victims. A third group in this category are women in labor admitted via the emergency room.

Patients included in the unnecessary category could have waited longer than 24 hours suffering from the delay. This includes minor respiratory infections, neurotic symptoms and chronic conditions.

Using this classification, less than half (49%) of these patients needed to be seen in the emergency room. If the obstetrical patients are deleted, only 42% required emergency treatment.

Discussion

Norfolk General Hospital serves an area of 700,000 people which is growing at a rate of 5.5% each year. While the population has increased by 32% in the last eight years, the number of emergency room visits has doubled. At this time, one patient is seen in Norfolk General Hospital emergency room every nine and a half minutes.

The number of emergency room visits

will continue to rise. This poses a problem of how to deal with these increasing numbers—the majority of whom do not present an acute emergency.

Possible solutions include:

1. Teach patients the proper role of the emergency room.
2. Don't expand existing facilities and staff thereby discouraging patients from seeking aid because of the inconvenience.
3. Treat the urgent cases and refer the others to the outpatient department or private physician without treatment.
4. Enlarge existing facilities and staff to handle the increasing load.

Norfolk General has undertaken the fourth proposal. The emergency room was last enlarged in 1959. At present, the size is being doubled. Plans for the future include increased house staff, nursing and administrative coverage.

Summary and Conclusions

The increase in emergency room visits and the reasons for this growth has been presented. In this decade, the number of visits increase by 112%.

In the Norfolk-Chesapeake-Portsmouth-Virginia Beach area, the population has increased by 32% in the past eight years. During this period, visits to the Norfolk General Hospital emergency room have increased by 100%.

In a recent twelve month period, over 42,000 patients were seen in the emergency room. Eighty-eight percent were treated and released. More than half (55%) of these patients were clinic status who were handled by the house staff. One of the major advances in the management of the emergency room has been the addition of full time physicians to be available for private patients. Seventy percent of the private patients were treated by the full time emergency room physicians.

The emergency room visits were analyzed in regard to necessity for acute treatment. More than half of all visits (51%) were classified as unnecessary. This group could have safely waited 24 hours to be seen by their family physician or specialist without undue risk to themselves. It is evident that the emergency room has developed into a convenience clinic. It is unlikely that this trend will change. Therefore, hospitals must combine all available techniques in coordinating the efforts of the physicians, nurses and administrative personnel in accepting this community service and providing the necessary facilities to meet this challenge.

The purpose of this study is to emphasize the growing needs of the emergency room and serve as a guide to hospitals in providing for this rapidly increasing load.

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A Localized Measles Epidemic in Norfolk, Virginia—January, 1969

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HARRY S. WISE, M.D.
PAUL C. WHITE, JR., M.D.
Norfolk, Virginia

An epidemic of measles, with 40 cases in a four week period, occurring in a single school in the City of Norfolk, is described.

SINCE THE LICENSURE of measles vaccine in March, 1963, intensive efforts aimed at eradication of the disease have been made on the federal, state and local levels. Though there have been substantial inroads, epidemic spread continues to occur. During the first quarter of the current epidemic year (October 16, 1968 to January 18, 1969) there were six areas in the nation reporting more than 100 cases,[1] including one city in Virginia. During this period, 45 counties or health districts throughout the country accounted for 65% of the total cases, indicating the continued existence of "pockets" of susceptible individuals.

The City of Norfolk appears to be fairly well protected at the present time. Epidemic spread of the disease was last experienced during the winter of 1966-67, when almost 900 cases of measles were reported. In February, 1968, a city-wide school immunization campaign for the first and second grades was conducted; approximately 6,000 doses of vaccine were administered. During the current epidemic year, only 20 cases of measles have been reported from Norfolk, and individual case investigation by one of us (R.R.) revealed that these cases were sporadic, and not related to epidemic foci.

A susceptible "pocket" within this community was discovered, however, when 17 cases of measles from a single school were reported to the Norfolk Health Department on February 3, 1969. It is the purpose of this communication to report the details of this epidemic, and the subsequent attempts at epidemic control.

Background

The City of Norfolk, with a population of 330,000, is the largest in Virginia. A substantial percentage of the population is made up of military personnel and their dependents. The outbreak occurred in an elementary school populated exclusively by the children of Naval enlisted personnel. In addition, all of the families using the school live in military housing facilities, and are confined to two areas with the Naval Operations Base.

Method of Study

It has been routine at the school for teachers to call the parents of children absent for three days or more. In this way, the initial 17 suspect cases of rubeola were discovered and continued surveillance maintained. A total of 40 cases in 25 families were uncovered. Twenty-one of these 25 families were visited in their homes, and the remainder were contacted by telephone. Information regarding age, sex, race, date of onset, clinical characteristics, duration of illness, immunization status, possible sources, and the status of other family contacts was obtained

for each case. Laboratory investigation was not attempted.

Results

The epidemic curve, by week of onset of illness, is depicted in Figure 1. It is skewed to the left with an abrupt drop-off—the typical curve for person to person spread within a susceptible population. It is revealing, however, to examine the curve in more detail. Figure 2 shows the measles cases by day of onset. The two index cases, J.H. (a six year old white male) and his sister, L.H. (a four year old white female), became ill on the 7th and 8th of January respectively. It was apparent that they had contracted the disease during the Christmas holidays, but an extensive review of their activities during this period failed to uncover the source. J.H., a first grader, returned to school on January 5, while incubating the disease. Following the onset of his clinical syndrome, there is an appropriate hiatus of one week, after which the disease spread rapidly through the population.

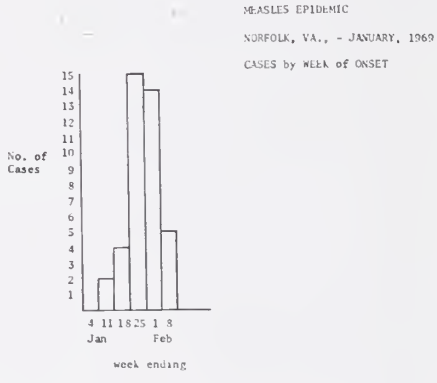


Fig. 1

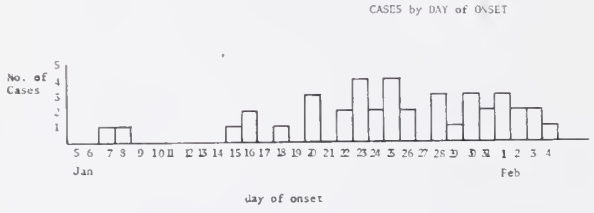


Fig. 2

This particular Naval population is predominantly Caucasian, and 100% of the children involved were white. They were approximately equally divided between male and female. The case distribution by age and sex, together with the attack rate by age, is shown in Table 1. (It is of interest to note that very accurate denominator data was available. A survey conducted by the Naval Housing Authority on August 1, 1968, provided age and sex distribution on the 2,592 children actually living within these housing areas.[6]) It is clear that the most heavily infected groups were the first and second graders, ages five to seven. Similarly, if the attack rate is calculated within the school population alone (see Table 2), the same trend persists, and in fact, it is noted that no cases occurred in the upper grades.

TABLE 1

Measles Epidemic, Norfolk, Virginia

January, 1969

Age-Specific Attack Rates Per 100 Population

Age	Male	Female	Total	Number of Children in Each Age Group[6]	Attack Rate/ 100
1	2	1	3	131	2.29
2	0	0	0	187	0.00
3	2	0	2	219	0.92
4	2	3	5	256	1.95
5	6	0	6	243	2.06
6	6	8	14	237	5.90
7	2	4	6	223	2.68
8	1	2	3	169	1.77
9	1	1	2	178	1.12
10	0	0	0	165	0.00

TABLE 2

Measles Epidemic, Norfolk, Virginia

January, 1969

Grade-Specific Attack Rates Per 100 Population

Grade	Number in Grade	Number of Cases	Attack Rate/100
1st	143	14	9.50
2nd	160	6	3.75
3rd	114	3	2.63
4th	106	2	1.89
5th	102	0	0.00
6th	97	0	0.00

The clinical syndrome was typical for measles and no surprising features were noted. There were no hospitalizations nor

any serious complications. In three of the 40 cases (7.5%), prior immunization with measles vaccine was claimed. This corresponds roughly with the 95% seroconversion rate following measles immunization which has been noted in several studies.[9,10]

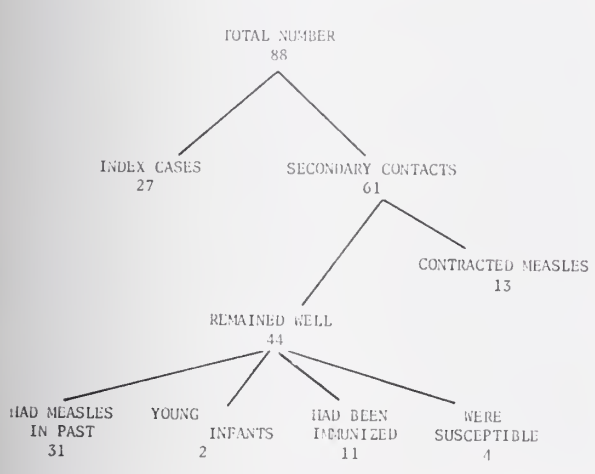
It seemed, in the course of case investigation, that the secondary attack rate was rather low. A breakdown of the status of family contacts with regard to measles protection (shown in Table 3) is revealing.

TABLE 3

MEASLES EPIDEMIC

NORFOLK, VIRGINIA - JANUARY, 1969

MEASLES-STATUS in 25 FAMILIES SURVEYED



There were 27 index cases in the 25 families (two with co-primaries). In all, there were 88 children in these families, giving 61 secondary contacts. Thirteen of these caught the measles and the rest (44) remained well. Their protection was afforded primarily through prior exposure to the measles. Only 11 had had measles vaccination. There were four children who were judged susceptible but escaped the disease. Thus, the true secondary attack rate is 13 out of 17, or 82%. Thinking retrospectively of conditions at the start of the epidemic, we see that 44 out of 88 (50%) of these children had been susceptible. Indeed, only 11 out of 88 (10%) had been protected through prior immunization with measles vaccine.

Epidemic Control

On Friday, February 7, 1969, the Norfolk Health Department, in conjunction with Naval Preventive Medicine Unit #2 and the Virginia Immunization Activities, conducted an immunization clinic at the school. School children were immunized in the morning, and the pre-schoolers from the Naval housing areas were invited to receive their injection in the afternoon. In all, 194 school children, and 52 pre-schoolers, were immunized.

Discussion

In his classic study, Hedrich demonstrated that epidemics of measles occurred when the proportion of susceptible individuals reached 45 to 50%.[2] His data were derived from the reported cases in Baltimore during the first three decades of this century. Though the exact percentages may no longer hold, since modern urban life has changed appreciably in the past 40 to 70 years, the concept is probably correct. Measles epidemics occur as the result of a buildup of susceptible pools, and the traditional two to three year epidemic cycles may be explained on this basis.

It has been well demonstrated that measles epidemics can be aborted by the abrupt raising of immunization levels through vaccination.[3] In addition, if the level of immunes can be sufficiently raised, endemic or sporadic measles may be eliminated as well.[5] Since there is no carrier state, and virtually no subclinical infection with measles virus, eradication of the disease is a feasible goal.[4]

The present study demonstrated the classic epidemic spread of measles through a population with sufficient susceptibility (in this case, 50%). Within the school itself, it is felt that attempts at epidemic control were successful. By the vaccination of 194 individuals, out of a total school population of 722, the immunization level was raised from the estimated 50% to an estimated 76%. With regard to the rest of the com-

munity, however, it was felt that the program fell far short. There are approximately 1,000 children between the ages of one and five currently living in these areas.[6] The 52 immunizations given would protect a scant five percent. But as Nader et al. have pointed out,[3] in a situation of this sort, immunization of the first and second graders will abort the epidemic and prevent spread to the pre-schoolers. These children are thus protected through "herd" immunity until they themselves are of school age.

Conclusion

The success of the school program may be attributed to the availability of the susceptible population to immunization. The failure of the pre-school program may be attributed to a number of factors: (1) the minimum pre-vaccination education; (2) the haste with which the program was mounted; (3) inclement weather on the day of the program; and (4) no ready facility for reaching all of the susceptible families quickly. But for whatever reason, its failure highlights the basic need in the community for an on-going continuous immunization program.

It might be suggested here that there are several ways to meet such a need. With short term objectives in mind, annual school immunization clinics would serve rapidly to elevate immunization levels; such clinics are, in fact, in existence in several areas in Virginia. But it is both logical and feasible to plan a long range program in terms of follow-up of *each individual child*.[7] At the present time, 45 states, not including Virginia, have some form of birth certificate follow-up program, through which parents are contacted and encouraged to complete their children's immunizations on a regular schedule. There are currently 25 states with laws requiring immunization against one or more communicable diseases prior to school entry.[8] (A breakdown by immunization required is shown in Table 4.) The practical value of such a legislative approach is self-evident for the practicing physician.

TABLE 4

Measles Epidemic, Norfolk, Virginia
January, 1969
State Immunization Requirements

States requiring immunization for a specific disease or diseases	25
Measles immunization required	11
Polio immunization required	15
Diphtheria immunization required	13
Pertussis immunization required	12
Tetanus immunization required	12
Smallpox immunization required*	21
All six (6) immunizations required	7

*Virginia requires only smallpox immunization.

Summary

An epidemic of measles, with 40 cases in a four week period, occurring in a single school in the City of Norfolk, is described. The disease spread in a classic fashion through the first and second grades. Pre-schoolers contracted the disease as secondary contacts. An immunization clinic was conducted which was probably adequate in protecting the school, but did not reach sufficient numbers of pre-schoolers. It is suggested that an on-going system of immunization is required for adequate community protection.

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(*References continued on page* 413)

Clinicopathological Conference . . . .

Icterus and Abdominal Pain in an Elderly Woman

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N. G. H. Autopsy # A-66-217

Clinical History

This 79 year old female was admitted to Norfolk General Hospital on the 16th of November, 1966. The patient presented with pain in her back and chest. Her past history revealed that she had anorexia and nausea during the week prior to admission and that on the day of admission she had become confused and "wobbly". There was no history of recent weight loss, fever, chills or abdominal pains. Two weeks prior to admission her urine had become darker in color.

Physical examination on admission re-revealed an elderly, icteric, slightly drowsy, white female. She was afebrile and normotensive. To auscultation her lungs were clear; the heart revealed a normal sinus rhythm without murmurs. Examination of the abdomen showed no evidence of organomegaly or masses.

Her admission electrocardiogram showed left axis deviation, and a small, old anteroseptal infarction could not be excluded.

The patient's hospital course showed that on her second day she became comatose and her urinary output became very poor. On that day she was found to have a blood pressure of only 70/40. Solu-Cortef was started on the third hospital day and her urinary output improved; however, she remained in a semicomatose state with a blood pressure of 110/60. Her condition gradually deteriorated and she died on her fourth hospital day.

The patient's laboratory data was as follows:

11-16: Hemoglobin 11.8, hematocrit 37, clotting time 12 min.; Bleeding time 2 min. 30 sec., Prothrombin time 13 sec., BUN 18 mg%, amylase 320 units, Bilirubin (total) 8.1 mg.%.

11-17: SGOT 1800 units.

11-18: Hemoglobin 10.0, hematocrit 35, BUN 25 mg%, Na. 121 meq./1., K=5 meq./1., Cl. 85 meq./1., CO_2 combining power 9 meq./1., SGOT 1580 units, Bilirubin (total) 14.4 mgm.%.

11-19: Hemoglobin 12.7, hematocrit 40, BUN 28 mg%, SGOT 1200 units, Bilirubin (total) 17.5 mg%.

Clinical Discussion

Dr. Robert Mann: This chief complaint of pain in her back and chest is interesting. I am interested in how severe was this pain. The more you think about chest and back pain in a 79 year old female, the more numerous are the diagnostic possibilities. This pain could be cardiac in origin; it could be pleural, but with the description given there is really no way to tell. In an elderly jaundiced lady we must think of the pain caused by neoplasms of the hepatobiliary tree or pancreas. This pain is usually severe. If the pain was severe, the description would probably have been stated in the format. The pain of an pancreatic neoplasm usually is interpreted as abdominal pain radiating to the back. Whether it was low back pain, high back pain, CVA pain or whether it was aggravated by movement or not would have been most helpful. In liver disease, abdominal pain is usually inconspicuous or described as an uncomfortable sensation in the epigastrium or in the right upper quadrant. Could this have been the origin of

this pain? The nausea and anorexia during the week prior to admission and the history of the patient being confused and "wobbly" points to multiple system involvement. We have to remember that in elderly patients multiple organ disease could be the case. I think the confused and "wobbly" state could be explained by an organic central nervous system abnormality; however, in the history no other neurological symptoms were given. The lesion could be a slowly expanding cerebral neoplasm, but by history (save the confusion and wobbliness), by physical examination, and laboratory data nothing pointed to an intracranial space occupying lesion and I will discount it as a diagnostic possibility at this point. A good possibility of what could have caused this picture would be a metabolic encephalopathy. I must explain why this patient was jaundiced. With a history of no weight loss, no fever, no chills, no edema, or abdominal pain we must think of hepatic involvement which was not chronic in duration. Prior to the onset of her illness she was in good health. By history the neoplastic or biliary obstructive diseases seem most unlikely. With a history of no pain, no vomiting or fever, I think we can discount disease of the gallbladder also. It is easy to rule out hemolysis for we have the hemoglobin and hematocrit values which did not change even in the face of a rising bilirubin.

There are a few things I would like to have known: I would have liked to have known what kind of medications she was on, Chlorpromazine, Methyltestosterone or Dilantin or one of our oral hypoglycemic agents. These can cause jaundice. Drug jaundice, however, usually remits when you withdraw the drug. By history I assume that she was taking nothing. Also I would like to have known whether she was exposed to any hepatotoxins, carbontetrachloride or phosphorus for instance. These are very hepatotoxic. Carbontetrachloride and also phosphorus are actually toxic to the liver cells per se.

Methyltestosterone and Chlorpromazine are felt to cause jaundice by a hypersensitivity reaction. This hypersensitivity generally shows other manifestations such as arthralgia and also frequently eosinophilia. No arthralgia was mentioned and no eosinophil counts were given, so this information is not helpful in the least. I wonder if this lady had recently come to Norfolk and had our famous Chesapeake oysters. If so, we can point more toward an infectious process. Did she have non-specific symptoms prior to the onset of her illness? Historically this lady did not have pre-icteric complaints. Her symptoms actually started when she had dark urine two weeks prior to admission.

On physical examination it is important to know that her lungs were clear to auscultation. Her heart showed a normal sinus rhythm and was without murmurs. With a normal heart and lung examination, the back and chest pain still are not further explained. In the physical examination no spider nevi, no enlargement of the parotid glands, no palmar erythema and no Dupuytren's contractures were present. All of these are found in cirrhosis, which I assume she did not have. She did not have hepatosplenomegaly, and I feel strongly that without that, cirrhosis is most unlikely. The larger the liver the more active, generally, is the cirrhosis. The smaller the liver the more likely is it that the disease is rapidly approaching its end stage. With no palpable liver we can also rule out alcoholic hepatitis with fatty vacuolization. I must think of this because many of these elderly people have access to alcohol that we are sometimes unaware. I think, too, that amyloidosis can be ruled out because of an impalpable liver and the acuteness of the illness. A neoplastic or granulomatous process can be ruled out by finding no hematosplenomegaly also. It is known that an impalpable liver in a patient with icterus of two or three weeks would tend to exclude carcinoma of the pancreas with obstruction.

As to help from the laboratory data in

making the diagnosis, the hemoglobins and hematocrit values give one only a feeling of security, for these changed little. One surprising point was that her clotting, prothrombin and bleeding time on her first hospital day were normal. This caused some consternation for with a hepar as severely injured as I assumed was our patient's, I would have hoped her prothrombin would at least have been prolonged. However, she survived three days after these determinations were made. An extensive degree of liver damage could have been sustained in that length of time. The BUN of 18 mg% on admission was not very remarkable. Over the next two days the BUN rose from 25 up to 28 mg%. This indicated that the patient was becoming more dehydrated. On the third day of hospitalization the patient's electrolytes were obtained: her sodium was 121 mEq/1, her potassium was 5, her chloride was 85 and her CO_2 combining power was 9. This reflects a metabolic acidosis. These findings are not too unusual in severe and terminal liver disease. Could this severe metabolic acidosis be aggravated further by a low output syndrome caused by a small myocardial infarction? The chemistries could have been influenced by many factors but with the lack of additional data, I think, it would be feasible not to discuss the electrolyte problem any further than to say that this could be a terminal finding not necessarily related to the patient's primary disease. Solu-Cortef was given and was certainly in order. I agree with the clinician and I feel that this was indicated. This was not given to combat gram negative septicemia, which the patient could have had, but probably to prevent further destruction of the liver. The serum amylase was 320 units. That is another point in this case that is rather intriguing. Although amylase elevations are hallmarks of pancreatic disease, I feel that this was not the case with our patient. An amylase to be helpful has to be two or three times normal, and although hers was 320 (normal 180), I suspect that we can say that this patient only had a rising amylase. A subsequent determination would have been helpful. Patients with duodenal ulcers with irritation in and around the pancreatic duct have amylase elevations. Patients who have received an opiate have elevated amylases caused by the spasm of the sphincter with supposedly back pressure into the pancreatic ducts. In any type of peritonitis we generally have elevated amylases. This is nicely explained by an irritative reaction upon the pancreas.

Occasionally in acute renal insufficiency amylases are elevated. The BUN of 18 on admission is quite normal, particularly in a patient who has been anorexic and probably slightly dehydrated. A small bowel obstruction or inflamed salivary gland causes amylase elevation. These I am sure were not present. This lady before coming into the hospital could have gotten a small injection of opium for pain, if so this could explain her lack of physical findings when admitted here and also the amylase elevation. All in all, I am not going to attach much significance to the rise in the amylase. The SGOT, our other indirect biochemical biopsy, was elevated and I am very happy that it was, for it fits in very nicely with what I suspect was taking place. A posterior MI could have caused some elevation of the enzyme but not as high as in this patient. Also after severe body trauma about 50% of patients will have elevated SGOT's. This was not the case in this patient. Opium again causes elevated SGOT's. Inflammatory and destructive processes of the pancreas or liver cause SGOT elevation. The SGOT elevation in this lady came from hepatocellular injury, and I feel that the other mechanisms I have discussed are not significant in this case. Her bilirubin was high. We are not sure whether the elevation was direct or indirect. I will assume that a greater portion is direct and a lesser portion is indirect to go along with my diagnosis. It does not worry me to find her bilirubin rose from 8.1 mg% to 17.5 mg% in three days. I think the rise in bilirubin

values are compatible with the liver damage which she had sustained. Like I said before, I would have been very happy if this patient's clotting factors were abnormal. Frequently during severe liver disease the bleeding and clotting factors decompensate suddenly. In the elderly we know they do poorly with any type of hepatitis whether toxic, infectious or whether from an alcoholic deluge. The prognosis is much worse in the older person than in the younger age group. This was true with our patient. Dr. Reyes will you present the x-ray findings at this time.

Dr. Efraim Reyes: Review of the cranium showed no diagnostic abnormality. The examination of the chest showed the heart to be borderline in size. Some ectasia of the ascending and descending aorta was noted probably due to arteriosclerotic changes. The costophrenic angles were clear. There was some generalized pulmonary fibrosis noted. My impression was a borderline heart in size and arteriosclerotic changes in the aorta with mild pulmonary fibrosis. The x-rays of the lumbo-sacral spine and dorsal spine showed marked osteoporosis with some old compression fractures, the basis of which radiologically is probably secondary to osteoporosis.

Dr. Robert Mann: Thank you, Dr. Reyes. In commenting on these findings I would like to say that the heart size and pulmonary fibrosis are not surprising. The old compression fractures are, as stated by Dr. Reyes, the result of osteoporosis and I doubt that they were clinically significant. More than likely she did have a chronic backache related to these findings however.

Dr. Robert Mann: I would like for Dr. Drew to comment on the electrocardiogram.

Dr. Donald Drew: When I read the format, I was very impressed that we had a copy of the electrocardiogram; the first CPC I remember having a tracing included in the format. The electrocardiogram showed left axis deviation which in itself is not unusual at this lady's age. The electrocardiogram was interpreted as showing possibly an old anteroseptal infarction. This was based on the fact that we had a tiny R-wave in the V3R, another small one in V1 and then first a very small one in V2 and V3, and then gradually an R-wave appearing. Also the T-waves were extremely tall in V2 and V3, and one would not be remiss in mentioning that this could represent high potassium or ischemia. After looking at the initial work-up one would know that the potassium was normal so I assume, therefore, that the T-waves had some relationship to ischemia. It could be that there was no infarction, but I would think that it is quite likely that there was an old one present.

Dr. Robert Mann: Thank you, Dr. Drew. The left axis deviation is important. It gives some evidence that this patient's heart was not normal. The impression that the tall T-waves in V2 could be secondary to ischemia is helpful. I am going to use that electrocardiographic impression to substantiate one of my final diagnoses as saying the patient had a posterior ischemic process taking place. In explaining this I feel that the patient became hypotensive shortly before the Solu-Cortef was started and that she had a myocardial infarction during that period. The generalized low voltage in the EKG is significant and I feel that it points toward pulmonary emphysema.

By history, physical findings, and laboratory data, I feel that this patient had a fulminating hepatitis. I know that it is hard to say whether this was infectious hepatitis or whether it was serum homologous hepatitis. With the information I have I cannot say which was the etiology. The patient probably also had a myocardial infarction. I feel, however, that she probably died from her liver disease and that this was the initiating factor for her marked electrolyte embalance. Her failing myocardium was secondary to arteriosclerotic heart disease which gave rise to the low output syndrome

which aggravated her metabolic acidosis. With a metabolic acidosis this could have been a toxic ingestion of methyl alcohol or some other substance, but I think this very unlikely in this 79 year old female. She, too, could have had a gram negative septicemia for her final difficulty, but this I think highly unlikely. By both EKG and chest film it would not be right to leave out that she had pulmonary emphysema. The patient's bone and arteries, I think, were victims of the ravages of old age. The compression fractures were secondary to osteoporosis.

Dr. Robert Mann's Diagnoses:

1. *Fulminating hepatitis, cause not known*
2. *Arteriosclerotic heart disease with an acute M.I.*
3. *Pulmonary emphysema*
4. *Osteoporosis*
5. *Generalized arteriosclerosis*

Pathological Discussion

Dr. Ralph Stephens: The clinical diagnoses were:

1. *Hepatic coma secondary to metastases from a neoplasm of the pancreas.*
2. *Possible but unlikely calculus obstruction of the common duct with secondary hepatitis.*

Also the clinician felt that the patient died in hepatic coma.

The autopsy findings revealed a collapsed, friable, moth eaten, miserable liver weighing 600 grams. It tore apart in the pathologist's hands. Microscopically there was massive dissolution of the hepatic parenchyma. There were small areas of fatty parenchyma intervening between hemorrhagic areas interspersed between small areas of fibrotic tissue. The pattern was histologically classical for acute yellow atrophy or acute fulminating viral hepatitis. Sections of the lungs showed minimal chronic pulmonary fibrosis and also areas of aspirational bronchial pneumonia. The coronary arteries showed only very minimal coronary sclerosis and the heart was normal in size. No infarction was found. The kidneys were somewhat contracted and granular. Microscopically there was chronic arteriosclerotic changes present in the kidneys.

Pathological Diagnoses:

1. *Acute yellow atrophy or fulminating hepatitis (viral)*
2. *Chronic pulmonary fibrosis and chronic pulmonary emphysema*
3. *Mild coronary sclerosis*
4. *Mild nephrosclerosis of the kidneys*

Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Emergency Medical Services Project

In August 1968 the Virginia State Department of Health initiated a new project for planning and developing a program for State-wide coordinated emergency medical services in Virginia. The project was made possible by a Federal grant of $56,400 under provisions of the Highway Safety Act of 1966. In brief, this act requires each state to establish a Highway Safety Program covering 17 program areas and to comply with minimum standards in each of these areas by 1970 or risk loss of Federal support of the state's highway building program. Emergency Medical Services is one of the 17 program areas which are being developed in cooperation with the State Highway Safety Division. This program is under the State Heath Department's Bureau of Epidemiology and has an office and field staff of six persons.

The objective of this program is to assure prompt and appropriate on-the-spot care of persons injured in highway accidents. Planning and development was divided into two phases.

Phase One—near completion—was initiated to:

(1) Determine the present status and adequacy of existing facilities and equipment.

(2) Determine present availability patterns and effectiveness in order to identify areas of service gaps and areas needing upgrading.

(3) Determine the existing training resources and the existing level of training of emergency services personnel.

(4) Evaluate the adequacy of present communication systems.

(5) Coordinate surveillance of high accident locations with State agencies accumulating accident records.

Upon completion of the survey it was found that the State of Virginia has 413 agencies operating ambulance services with over 8,000 personnel and 834 ambulances.

With the data acquired in these studies and with advice from the Advisory Committee on Emergency Medical Services that has been appointed, there is being developed a comprehensive and balanced state-wide coordinated plan for emergency medical services including regulations for ambulances and ambulance attendants.

Phase Two is now under way and includes, but is not limited to, the following:

(1) Upgrading training for ambulance and rescue vehicle personnel, where needed, to bring all attendants to the minimum training level; the Advanced First Aid Course offered by the American Red Cross, the United States Bureau of Mines or equivalent.

(2) Developing licensing and related requirements for emergency vehicle personnel and establishing the procedures for these services.

(3) Establishing standards for minimum equipment and supplies and providing inspection procedures to insure compliance.

(4) Improving procedures for summoning and dispatching aid where and when needed.

(5) Encouraging the use of two-way radio communications with the hospital emergency rooms as well as the emergency medical establishments.

Plans are being drafted by the Emergency Medical Services Project to institute paramedic instruction schools for all certified emergency medical care attendants in 22 areas throughout the Commonwealth.

In addition, the Project is cooperating fully with the field coordinators of the Virginia Highway Safety Division and helping counties and cities upgrade their emergency medical service facilities by obtaining Federal funds to improve their existing services.

The purpose of the program is to ensure that those precious moments following an accident will be utilized promptly, correctly, and adequately so that the best in emergency care can be provided the victims and increase their chance of survival.

Monthly Report of Bureau of Communicable Disease Control

	May 1969	May 1968	Jan.-May 1969	Jan.-May 1968
Brucellosis	1	5	13	14
Diphtheria	—	—	—	—
Hepatitis	38	31	171	200
Meningitis (Aseptic)	1	1	5	2
Meningococcal Infections	7	3	39	22
Poliomyelitis	—	—	—	—
Rocky Mt. Spotted Fever	9	8	9	12
Rubella	457	86	1064	429
Rubeola	66	30	616	219
Streptococcal Sore Throat or Scarlet Fever	1193	1000	8189	7401
Tularemia	1	0	1	1
Typhoid	—	2	—	5
Rabies (in animals)	26	5	248	77
Venereal Disease				
Syphilis	95	175	620	729
Gonorrhea	889	758	4644	2778
Other	4	3	16	8

Diagnostic Laboratory Medicine....

H. P. DALTON, Ph.D.
M. J. ALLISON, Ph.D.
M. R. ESCOBAR, Ph.D.

Herellea Vaginicola

Herellea vaginicola is one member of a poorly defined group of bacteria known as the tribe Mimae. The classification and correct species name for this group is being disputed by bacterial taxonomists and more needs to be learned about this organism before these points can be settled. However, clinical microbiology laboratories are increasingly isolating these agents from clinical specimens, and this necessitates that the physicians have some knowledge as to how these organisms might be contributing to the infectious state. The characteristics used to define *Herellea vaginicola* in this laboratory are shown in Table 1 as are the synonyms which are used by other laboratories. The binomial designation used in this paper was the one originally proposed by DeBord for this organism.

TABLE 1

Principle Identifying Characteristics and Synonyms for *Herellea Vaginicola*

Characteristics		*Synonyms*
Morphology gram-negative coccal bacillus pleomorphic		Diplococcus mucosus Bacterium anitratum Moraxella glucidolytica Neisseria winogradskyi Achromobacter anitratus Acinetabacter anitratus Moraxella vaginicola Mima vaginicola Lingelsheimia calcoacetica
Motility	Negative	
Nitrate Utilization	Negative	
Glucose 1%	Acid	
Lactose 1%	Negative	
Lactose 10%	Acid	
Galactose 1%	Acid	
Mannose 1%	Acid	
Oxidase	Negative	
Citrate	Negative	

Table 2 lists the source and number of Herellea isolated in the last 9 months of 1967. Over half of these 222 isolations were from wounds. These results are in agreement with the literature which points to the fact that these organisms demonstrate a low degree of invasiveness and are often associated with underlying conditions such as wounds, trauma, burns, malignancy, and indwelling catheters. *Herellea vaginicola* infections occur in some patients after prolonged antimicrobial therapy or steroid therapy. In this regard, the pathogenicity of these organisms is similar to that of the

TABLE 2

Source of *Herellea Vaginicola* Isolates (1967)

Months	Wounds	Respiratory	Urine	Total
April	16	9	3	28
May	12	6	2	20
June	19	7	4	30
July	14	15	5	34
August	22	5	11	38
September	14	4	1	19
October	8	4	1	13
November	4	1	6	11
December	10	14	2	26
Total	119	65	35	*219

* 3 isolates from blood were also made.

TABLE 3

Antibiotic Disc Sensitivity Pattern of *Herellea Vaginicola*

Antibiotic	Disc Conc. u/ml	Percent of Sensitive Strains
Penicillin	10	9
Erythromycin	2	9
Methicillin	5	9
Ampicillin	10	26
Cephalothin	30	17
Streptomycin	10	34
Tetracycline	30	42
Chloromycetin	30	25
Neomycin	30	92
Colymycin	10	92
Kanamycin	30	34

fungi and other bacteria, such as *Pseudomonas aeruginosa*, of relatively low invasive potential.

It may be of interest to note that the isolation of Herellea appears to be higher in the warmer months. The reason for this is not clear, but it might be explained on the basis of this organism being an exogenous saprophyte found in water and soil. High temperature could allow greater numbers to accumulate in the environment.

The sensitivity pattern of the organism is seen in Table 3. On the basis of these *in vitro* disc sensitivity tests, Neomycin and Colymycin appear to be effective against the majority of strains. Tetracycline and Kanamycin also show activity against some strains, but most are resistant to these antibodies. These findings are in agreement with other reports which show that Herellea are resistant to many of the commonly used antibiotics. These results might help to explain the emergence of these bacteria in chronically infected individuals who have been treated with antibiotics for longer periods of time.

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CERVICO-AURICULAR FISTULAE—

Harkins-Carraway

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A LOCALIZED MEASLES EPIDEMIC—

Rothenberg-Wise-White

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Mental Health . . . .

RUBY J. RHODES, O.T.R.

Occupational Therapy in a Mental Hospital

"The concept of occupational therapy, i.e., the use of activities in altering and/or reversing the process of mental illness, received impetus about 100 years ago when psychiatry had as its basic precept the inherent worth of the human being and the belief that the mentally ill were essentially normal persons who had undergone excessive social and psychological stress." [1]

"It was readily seen that a patient's behavior changed and improved as he was able to become involved in constructive activity. A program of work and diversion was perceived as valuable in that it helped develop self esteem and a sense of worthiness, diverted unacceptable behavior and interfered with pathological thinking thus changing appreciably the way in which the patient behaved." [2]

As awareness of the inherent value of purposeful activity grew, often the "end product" or successful completion of a job or project began to be the basis for judging the mental health or recovery of the patient.[3]

Then as theories of interpersonal relationships began to develop many therapists felt and now feel that the relationships between the patient and the occupational therapist is considerably more important than the activity.[4]

Others felt that since action is the natural antidote for anxiety, any action or activity of itself will relieve anxiety.[5] This has not necessarily proved to be true. Present thinking accepts the definition of psychiatric occupational therapy as the use of the psychodynamics of activities and the accompanying relationships which occur or exist when these are utilized.[6]

In occupational therapy, as in other therapies, "individual personal relationships are undoubtedly the single most important factor in any effort to help another human being." Such interpersonal relationships are influenced by many factors. Within the psychotherapeutic frame of reference, the more influential ones have been identified as the patient, the therapist, and the group. Interaction between these component parts provides a unique experience in a given setting. Occupational therapy adds an additional component in the form of an activity or object. Therefore, the use of activities (which I like to refer to as the "curing by doing" approach) becomes the distinguishing characteristic of occupational therapy. This does not imply that this has greater value than the other factors since each is essential to the total experience. Therefore, through the use of the therapist, the group and the activities, we would hope to change or modify behavior.[7]

Today, there are varying schools of thought embracing a variety of concepts with regard to the dynamics of etiology and treatment.

I. The psychoanalytic approach places primary emphasis on the unconscious, exploring the unconscious needs, drives and conflicts of the patients and resolving these by means of awareness and understanding within the therapeutic relationship.[8]

   An example of this when used in occupational therapy might be as follows: an extremely hostile patient might be provided with an activity to act out his overt or covert feel-

RHODES, RUBY J., O.T.R., *Director of Occupational Therapy, Central State Hospital.*

Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

ings while the therapist uses the activity and the rapport that is established with the activity to find out what is really bothering him.

II. The supportive approach recognizes the significance of the unconscious phenomena and helps the patient gratify his needs through sublimation. It deals with conflicts by establishing constructive defenses rather than by exploring and uncovering them,[9] i.e., socially unacceptable impulses may be directed into socially acceptable channels. A patient's feelings of anger and aggression may be acceptable when striking a punching bag or when building a woodworking project which entails a considerable amount of sawing, hammering, etc.

III. The directive or repressive approach utilizes the patient's existing ego integration to repress unacceptable feelings and behavior. It is expected that the patient can and will suppress unacceptable behavior if he is helped to do so.[10] This requires understanding with firmness somewhat like disciplining a child whose parent assures him, "Yes, it is because I love you that you will not be allowed to act like that." With the mentally ill, the attitude can be expressed as, "Yes, I can understand why you feel or act this way, but I know you will not be accepted if you act this way outside the hospital." Therefore, this behavior will not be tolerated here. Good behavior is rewarded, deviant behavior is punished, i.e., privilege denied.

It is my personal opinion that perhaps all three of these approaches should be used with the same patients at different times, depending on the patient's degree of illness and on his level of functioning, since all of us use all of these approaches daily to maintain our own emotional balance. We talk out our problems with friends, "let off steam" through activities, and are rewarded or punished accordingly for our daily actions.

The problem in therapy is to anticipate the degree and type of response that will help the patient. It is a continuous process of evaluating and re-evaluating his thoughts, his feelings, and his actions. The therapist must start at the level where the patient is functioning and bring him along, hopefully, to the point where he can again take his place in his home and his community.

Through the modalities of occupational therapy, recreation, work placement, and music which we have available to us, we attempt to help our patients in many more specific ways. For instance, by using activities and the relationships which develop around them we attempt to build self esteem. I remember the patient who was working with ceramic clay. She created a figure of a man, woman, and a dog on an ash tray. She later expressed to the therapist that the man represented her husband, the woman her mother in law, and the dog represented herself who was really the dog in the family. Therapeutic use of activities first helped her to express these emotions, then to begin to build a more accurate picture of herself as a capable, worthwhile person.

Other specific aims include such things as providing opportunities to: express hostility and aggression, alleviate anxieties and guilt feelings, guide interest and energies, strengthen masculine and feminine identification, gratify oral and anal needs, develop better interpersonal relationships with others, accept responsibilities, learn to accept instruction, criticism, failure and success, accept assets and limitations, develop and increase initiative, provide for creative expression, build work tolerance and many more.[11]

"Thus we hope to meet the patient's needs, alleviate symptoms, interfere with pathology and in general aid in helping to

develop a better adjusted person with a more integrated personality." [12]

I hope that in the future when you think of occupational therapy, you will think of it as a rehabilitation process, one which uses activities as one component of a total treatment program.

I have realized that I have stated here the ideals of a treatment program and not as it always exists in fact. However, these are the aims and goals toward which we strive. In a hospital such as ours with its diversity of people and diagnoses, our aims and at times our goals must necessarily be different from the ideal. Specific aims for the retarded children's area, where emphasis may be on activities of daily living and self care, limited academic learning, and socialization, will of necessity be different from the geriatric areas where emphasis necessarily is on maximum adjustment to hospitalization. Also, for us as well as for other personnel and other departments, a large number of people all needing help and attention and the benefits of therapy at the same time, of necessity, limits the amount of time that can be spent with each person.

Of course, our ultimate goal, like all members of the para-medical team, is to provide the best possible treatment for as many as possible so that they may again take their place in their home and their community.

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Cases II and III were on the author's service at Buffalo Children's Hospital, Buffalo, New York.



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Indication—Oral contraception.

Contraindications—Thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia, undiagnosed abnormal genital bleeding.

Warnings—Watch for the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism, retinal thrombosis); if present or suspected discontinue the drug immediately.

British studies reported in April 1968[1,2] estimate there is a seven- to tenfold increase in mortality and morbidity due to thromboembolic diseases in women taking oral contraceptives. In these controlled retrospective studies, involving 36 reported deaths and 58 hospitalizations due to "idiopathic" thromboembolism, statistical evaluation indicated that the differences observed between users and non-users were highly significant. The conclusions reached in the studies are summarized in the table below:

Comparison of Mortality and Hospitalization Rates Due to Thromboembolic Disease in Users and Non-Users of Oral Contraceptives in Britain.

Category	Mortality Rates		Hospitalization Rates (Morbidity)
	Age 20-34	Age 35-44	Age 20-44
Users of Oral Contraceptives	1.5/100,000	3.9/100,000	47/100,000
Non-Users	0.2/100,000	0.5/100,000	5/100,000

No comparable studies are yet available in the United States. The British data, especially as they indicate the magnitude of the increased risk to the individual patient, cannot be applied directly to women in other countries in which the incidences of spontaneously occurring thromboembolic disease may differ.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or sudden onset of proptosis, diplopia or migraine. Withdraw medication if papilledema or retinal vascular lesions are found.

Since the safety of Ovulen in pregnancy has not been demonstrated, it is recommended that pregnancy be ruled out for any patient who has missed two consecutive periods before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the first missed period.

A small fraction of the harmone agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect on the nursing infant cannot be determined at this time.

Precautions—Pretreatment physical examination should include special reference to the breasts and pelvic organs, and a Papanicolaou smear.

Endocrine and possibly liver function tests may be affected by Ovulen. Therefore, it is recommended that such tests if abnormal be repeated after the drug has been withdrawn for two months.

Pre-existing uterine fibromyomas may increase in size under the influence of progestogen-estrogen preparations.

Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation.

In breakthrough bleeding, and all irregular vaginal bleeding, consider nonfunctional causes. Adequate diagnostic measures are indicated in undiagnosed vaginal bleeding.

Carefully observe patients with a history of psychic depression and discontinue the drug if severe depression recurs.

Any possible influence of prolonged Ovulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study.

A decrease in glucose tolerance has occurred in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be observed carefully while receiving Ovulen.

Because of the effects of estrogens on epiphyseal closure Ovulen should be used judiciously in young patients in whom bone growth is not complete.

The age of the patient constitutes no absolute limiting factor, although Ovulen therapy may mask the onset of the climacteric.

The pathologist should be informed of Ovulen therapy when relevant specimens are submitted.

Adverse Reactions—A statistically significant association has been shown between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: cerebrovascular accidents, neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement, secretion), change in weight, changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, allergic rash, rise in blood pressure in susceptible individuals, mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme and nodosum, hemorrhagic eruption, itching. The following laboratory results may be altered by oral contraceptives: hepatic function: increased sulfobromophthalein and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test; pregnanediol determination.



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Woman's Auxiliary . . . .

The members of the auxiliary in Virginia feel very deeply the loss of a gentle, kind, inspirational leader in the death of Mrs. C. C. Long, Jr., President of the Woman's Auxiliary to the American Medical Association. Esther Long was a woman with foresight, conviction and a particular empathy with the youth of today, which led her to initiate the program "Accent on Youth". This program has been carried out successfully this past year and will be continued this coming year. She issued a call to the auxiliary to wage a campaign against violence in television and movies as well as a number of other programs.

Our sincere sympathy is extended to Doctor Long and his family. We grieve with them. We have been enriched by her presence and concern which lives on!

This Was Our Year . . .

Your *President's* report to national tells the story with much pride and pleasure.

The Woman's Auxiliary to The Medical Society of Virginia is comprised of twenty-four county auxiliaries and 17 members-at-large. Membership has been increased by 92 new members this year, which brings the total number of Virginia Auxiliary women to 1,567.

Keeping in perspective the main function of Auxiliary, which is to serve the Medical Profession, Virginia's Auxiliary has carried out programs of benefit to the physician through use of the packaged programs, sponsored projects to further the medical profession, and has promoted public relations within the community.

Accent on Virginia Youth, the theme for this year's work, is in keeping with the philosophy of the late Mrs. C. C. Long who said, "The youth of the country hold the key to tomorrow." At the post convention Board Meeting and Workshop held in Roanoke in October, a special committee, Children and Youth, was appointed by the president to formulate plans in keeping with the theme. It was at this workshop that Mr. Robert Horan, Commonwealth Attorney for Fairfax County, presented and commented on the film LSD, a U.S. Navy film. Exceptionally well produced and with dramatic impact, this film has greatly augmented the work of auxiliary in the field of drug abuse. Three editions were purchased, one by the State and two by county auxiliaries, and are being shown throughout the State with enthusiastic reception. Bookings now run well into next October.

In November, an Auxiliary sponsored workshop, "Opening Channels of Communication Between Generations" was held in Richmond. Five prominent Virginians, Dr. George Bright, an adolescent specialist among them, responded to queries and comments offered by the seven high school students and young adults representing diversified geographical and socio-economic backgrounds. These young people had as their topic "Young People Speak Out" and they did. Virginia T.V. and newspapers reported the workshop as a very informative and worthwhile step in "Bridging the Gap". Still another workshop on "Drug Abuse" was held in Richmond under the auspices of the Auxiliary to the Richmond Academy of Medicine.

A State sponsored Workshop, "Mental Health Problems—Accent on Virginia Youth" was held in March in Petersburg. Specialists in the fields of psychiatry and psychology participated at this workshop. Topics concerned with "problems of growing up" were discussed. As a result of this, the president and mental health chairman have attended meetings with the related committee of The Medical Society of Virginia to discuss the possibility of forming

"Teen-Age Worry Centers" throughout the State, professionally staffed and volunteer sponsored. A feasibility study recommended by the Board is now being considered upon advice of the Mental Health Committee. Three films on drug addiction and abuse were reviewed also with the Society's Mental Health Committee and are scheduled for television viewing in the early summer throughout the State.

Continuing with the theme, "ACCENT ON VIRGINIA YOUTH", contributions to AMA-ERF have amounted to over $5,200. This figure is an increase of $200 over June 1968. Additional contributions to the Special Memorial Fund, in memory of Mrs. C. C. Long, are continually accumulating. Fund raising projects, supported by our regional and state chairmen, were sales of ceramic figurines, Christmas cards, stuffed animals and donations "In Appreciation", "In Memoriam" and "In Honor".

Requests by the physician chairman of VAMPAC have been honored and concentrated efforts are still being made to increase interest and membership in VAMPAC. Copies of medical legislative bills have been sent out with the reminder that the Virginia Assembly will be in regular session in 1970.

Gifts are still being received for the restoration of Dr. Walter Reed's birthplace, Belroi, located in Gloucester, Virginia. Upon completion, this shrine will hold great appeal for all physicians and their wives throughout this nation.

The Sally Tompkins Chapter of WASAMA, located in Richmond, continues to grow in membership and completed projects. We are especially proud of WASAMA member, Mrs. G. Edward Kappler, Robin, who has been elected National WASAMA President-Elect. The State auxiliary supports this chapter, our only one, with an appointed liaison chairman and national sustaining members. Every effort is made by Virginia Auxiliary members to encourage, support and advise our WASAMA girls.

Results of an Auxiliary sponsored survey on the needs of the Home-Centered Health Care Program have indicated that these needs are being met adequately by other State organizations. Doctor's wives are actively engaged in these organizations and are working with these programs, the survey revealed.

County Auxiliaries, aware and concerned in the field of Health Careers, are continuing to work in cooperation with the Virginia Federation of Women's Clubs, the Virginia Congress of Parents and Teachers with whom we have a liaison contact for work with their program on *Emotionally Disturbed Children,* the auxiliary to the VAGP and the Commonwealth's two Medical Schools. The Auxiliary is working in cooperation with Dr. J. S. Horsley III, Health Careers Chairman of the Medical Society, and with Dr. Hamel, Chancellor of the Virginia Community College Program. Ten scholarships and two loans, amounting to $12,000, have been offered to young people entering fields related to Health Careers. Of the 14 Health Career Clubs in the State, nine are sponsored by Auxiliaries. One Auxiliary in Northern Virginia has enlisted in the promotion of a high school Health Research program in which 475 students participated. A Statewide Health Manpower study has been completed, in conjunction with the national manpower study.

MRS. ROBERT D. KEELING, *President*

Editorial . . . .

The Developing Medical Center

IT HAS BEEN FIVE YEARS since the Norfolk Area Medical Center Authority was created by an act of the State Legislature and charged with promoting and developing a medical center and medical school. What has been accomplished? What is being done? What about the proposed medical school? These questions, often heard and certainly reasonable, seem to require an evaluation of the progress and present status.

Initial efforts were to organize local support and begin planning. The best possible advice was sought and nationally known medical and architectural consultants were retained on a permanent basis. Delegations of recognized authority have come to Norfolk, and local groups, both large and small, have traveled extensively to seek additional advice. Civic organizations and local foundations have given generously of time and money.

The area surrounding the Norfolk General Hospital, including the King's Daughters Children's Hospital, the Public Health Building, and the Medical Tower Office Building, was agreed to be the best location for the medical center. It is centrally located in the most densely populated area, easily accessible to the developing freeway system and public transportation. A total of seventy acres is set aside for medical center use in this area. Careful consideration and expert advice indicates that this amount of land represents a reasonable compromise between taking too much from the community and leaving too little for the center and medical school.

In this area, the Tidewater Rehabilitation Institute has been planned, built and in operation since 1967. It operates under a full-time medical director, a physiatrist, and provides complete facilities for the evaluation and therapy of physical disabilities in adults and children. It also provides an excellent school for handicapped children.

In cooperation with the Tidewater Heart Association, a cardiopulmonary diagnostic laboratory has been built in the King's Daughters Children's Hospital adjacent to and connecting with the Norfolk General Hospital. This laboratory is excellently equipped and offers complete diagnostic services under the direction of a full-time cardiologist.

At Norfolk General Hospital a cardiac surgery service doing open heart surgery has been in operation for one and a half years. Two full-time surgeons, nurses, technicians and laboratory personnel, staff this superbly equipped organization.

A part of one wing of Norfolk General Hospital has been set aside and developed as a research department. In this department are two operating rooms and a sophisticated research laboratory. One of the cardiac surgeons serves as director of research.

A completely new animal quarters has been built adjacent to and connected to the research department at a cost of $200,000.00. It is equipped to house fifty dogs and other small animals.

The Medical Center Authority is at present engaged in the search for a full-time anesthesiologist. A nephrologist is also being sought to organize and head a renal dialysis unit.

A decision has recently been made to go ahead with the building of a mental health center to cost $2,500,000.00. This will be the third in the State of Virginia. Outpatient facilities and eighty-four inpatient beds will be included.

The medical school remains the greatest challenge and provides the greatest opportunity. The challenge is to build the school and a special opportunity exists to develop the school in such a manner as to provide maximum benefit to all area practicing physicians and medical facilities. This should include strengthening the educational programs in the hospitals and developing a strong department for the training of primary physicians. This is in accord with present thinking that a medical school exists not only to train students but also has an obligation to the continuing education of practicing physicians.

An affiliation between the Norfolk General Hospital and the school seems quite probable. At the same time, the need for preserving the privileges and beds of the present medical staff is well recognized. As a prerequisite to a medical school, plans call for the building of an additional 400 beds for use in teaching and to be controlled by the teaching staff. Mutually advantageous affiliations with other area hospitals will be encouraged.

Unfortunately, money to provide a medical school is not yet in hand. State funds are not available and indeed the Legislature has stated that this should be a private medical school. This, in spite of the fact that the State Council of Higher Education has clearly recognized the need for a third four year medical school, and has stated that it should be in the Hampton Roads area. Therefore, private funds (with Federal assistance in construction) are needed. Area wide enthusiasm and backing are such that the end seems in no doubt. Only the time remains in question.

ROBERT L. PAYNE, JR., M.D.
Chairman, Medical Advisory Committee
Norfolk Area Medical Center Authority

902 Medical Tower
Norfolk, Virginia 23507

Dr. Payne is a former member of the Editorial Board of the Virginia Medical Monthly.

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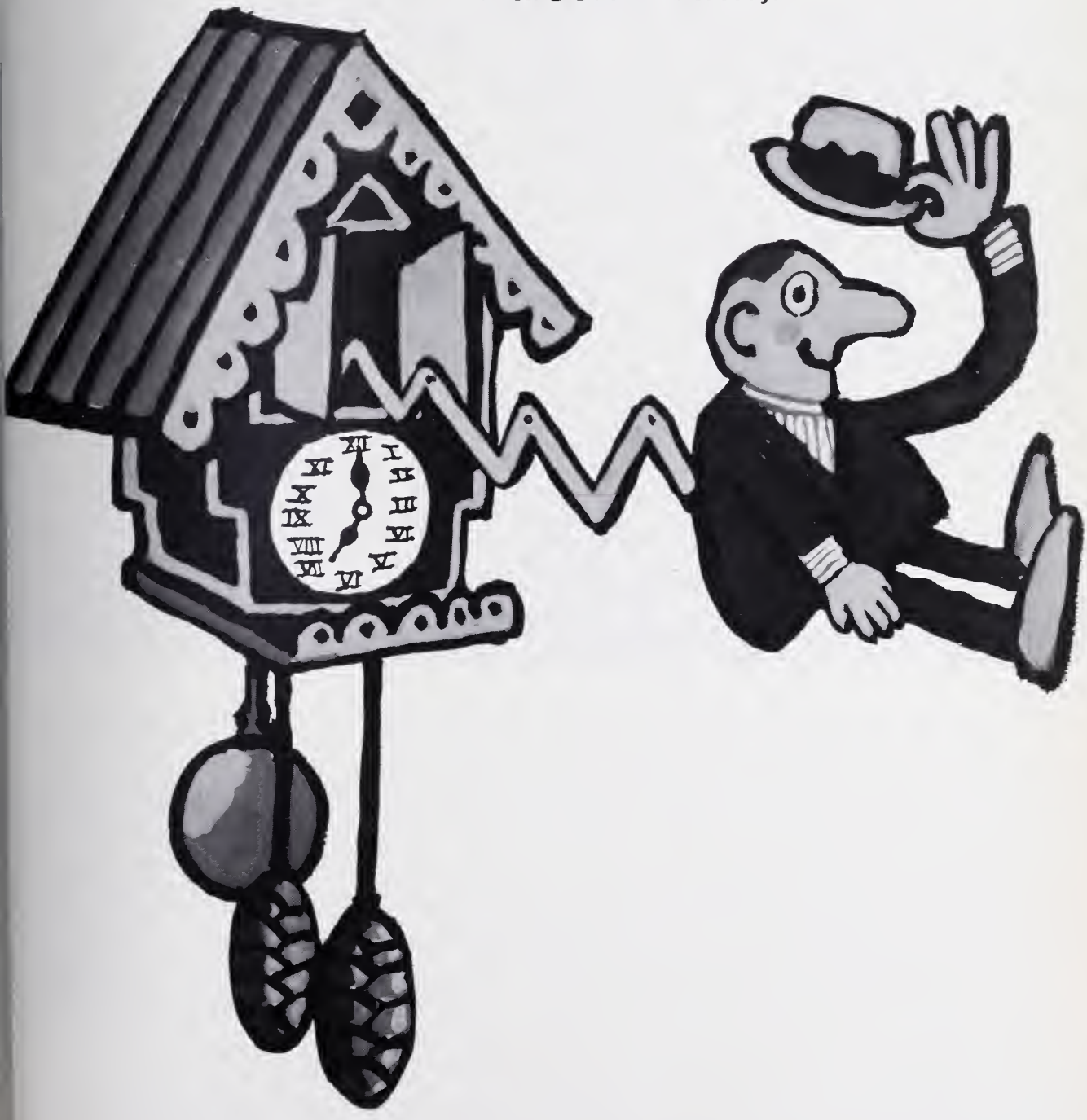
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Clues to PVD The geriatric smoker

In studies on peripheral vascular disease—a common by-product of the degenerative aging process—considerable attention has focused on the important role of smoking in the progression of the disease. Although it may not be etiologic, smoking is widely recognized as a prominent contributing factor.[1]

Skin blood flow—significant factor in PVD. Cutaneous digital vasoconstriction caused by nicotine has been observed both in normal subjects and in patients with peripheral vascular disorders.[1,2] Among patients with peripheral vascular disease, however, age and the severity of the disease appear to modify the effects of nicotine. For example, in a study of older patients with *marked* peripheral vascular disease,[3] changes induced by smoking were not statistically significant for the group as a whole. This was explained on the basis of decreased skin reactivity. *Smoking is not permissible in any stage of the disease,* since even "... minimal reduction in blood flow in patients with ischemic limbs may produce a further reduction in tissue nutrition, and thus may be another case of the proverbial straw on the camel's back."[3]

In another study of patients with peripheral vascular disease,[4] the investigators stress that decreased skin blood flow during smoking "... is the factor of most importance to the patient with peripheral vascular disease." *While such patients may adjust to the discomfort of vascular insufficiency in skeletal muscle, decreased skin blood flow may often lead to severe symptomatology.*

More and more physicians have adopted the practice of investigating for peripheral vascular disorder when confronted with a geriatric patient who is a habitual smoker. Once a diagnosis is established, therapeutic measures are directed toward increasing the peripheral circulation and appropriate management of the patient's general medical needs. These include the important safeguards of keeping warm and refraining from smoking.

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Dosage: 1 or 2 Timespan Tablets morning and night.
How Supplied: Timespan Tablets—150 mg nicotinyl alcohol in the form of the tartrate salt, bottles of 50.

References: (1) Roth, G. M.; Shick, R. M., and Secrest, R. R., in James, G., and Rosenthal, T., eds.: *Tobacco and Health*, Springfield, Ill., Charles C Thomas, 1962, pp. 311-322. (2) Entmacher, P. S.: Proc. Med. Sect. Amer. Life Convention *51*:149, 1963. (3) Freund, J., and Ward, C.: Ann. New York Acad. Sci. 90:85, 1960. (4) Coffman, J. D., and Javett, S. L.: Circulation 28:932, 1963.



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News . . . .

Calendar of Events

Medical Aspects of Sports—Sponsored jointly by The Medical Society of Virginia and Virginia High School League—VPI Coliseum—Blacksburg—July 27, 1969.

Medicine and Religion Symposium—University of North Carolina School of Medicine—Chapel Hill, North Carolina—September 8-9, 1969.

Whitman Memorial Lectures—Sponsored by Lewis-Gale Medical Foundation—Subject will be "What's New at Johns Hopkins University in 1969"—Hotel Roanoke—Roanoke—September 11, 1969.

National Conference on Physicians and Schools—Pick-Congress Hotel—Chicago—October 8-11, 1969.

Annual Seminar—Sponsored by Bluefield Sanitarium, Stevens Clinic and Clinch Valley Clinic—Bluefield Country Club—October 16, 1969.

The Medical Society of Virginia—Annual Meeting—Virginia Beach—October 16-19, 1969.

American Cancer Society, Virginia Division—Annual Meeting—Hotel Jefferson—Richmond—October 22-23, 1969.

Conference on Children with Learning Disabilities—Sponsored by Virginia Council on Health and Medical Care—Conference Center—Williamsburg—November 9-11, 1969.

Southern Medical Association—Annual Meeting—Atlanta, Georgia—November 10-13, 1969.

Virginia Hospital Association—Annual Meeting—Marriott Twin Bridges Motor Hotel—Arlington—November 13-14, 1969.

American Medical Association—Clinical Convention—Denver—November 30-December 3, 1969.

Annual Postgraduate Program—Sponsored by Medical Staff of Roanoke Memorial Hospital—Roanoke—March 19-20, 1970.

* * * * * *

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following members were received into The Medical Society of Virginia during the month of May:

Wadi Jesus Acra, M.D., Norfolk

Cyrus Uriah Brown, M.D., Newport News

James Grayson Campbell, M.D., Richmond

Roger Conant, M.D., Radford

John Edward George, M.D., Roanoke

Maury Lloyd Hanson, Jr., M.D., Alexandria
John Edward Kilfeather, M.D., Annandale
Emory Lawrence Langdale, M.D., Richmond
Antonio Enrique Leon, M.D., Wheaton, Maryland
Alan Joseph LePeter, M.D., Roanoke
Laszlo Ormandy, M.D., Arlington
Colon Rivadeneira, M.D., Richmond
William M. Stone, M.D., Alexandria
Hoay Tjiang Tan, M.D., Hampton
James Latane Ware, M.D., Richmond

Dr. John R. Saunders,

Richmond, recently received the Distinguished Alumni Award for Medicine from Wake Forest University. He was selected by the faculty and a special alumni committee of the University.

Dr. Richard E. Palmer,

Alexandria, has been appointed to a special AMA Committee on Health Care of the Poor. The first meeting of the Committee was held in Chicago on June 30th.

Dr. George N. Thrift

Has been elected president of the Richmond Rotary Club.

Virginia Academy of General Practice.

At the annual meeting of the Academy held in Williamsburg, April 30-May 4, Dr. A. Epes Harris, Blackstone, succeeded Dr. Howard I. Kruger, Norfolk, to the presidency. Dr. C. W. Taylor, Jr., Shawsville, was named president-elect; Dr. Thomas H. Jennings, Bedford, vice-president; Dr. Alan Mackintosh, Vienna, secretary; and Dr. Jose D. Coll, Richmond, treasurer.

Dr. William P. Jollie

Has been appointed professor and chairman of the Department of Anatomy of the Medical College of Virginia. He has recently held this same appointment at Tulane University School of Medicine where he has been a member of the faculty since 1961. Dr. Jollie assumed his position in Richmond June 1st.

Appointment of Dr. Pitts.

The State Department of Health and the University of Virginia School of Medicine have announced the appointment of Forrest W. Pitts, M.D., as superintendent and medical director of Blue Ridge Sanatorium, Charlottesville, and as clinical associate professor of internal medicine at the University of Virginia. Both appointments are effective August 1st.

Dr. Pitts is a native Virginian and received his medical degree from the Medical College of Virginia in 1947. He has served continuously with the Medical Corps of the U. S. Army since completion of his internship and residency. His father, Frank P. Pitts, now retired, was formerly assistant dean of Pharmacy at the Medical College of Virginia.

Dr. Edward W. Hook

Has been named chairman of the department of internal medicine at the University of Virginia School of Medicine, effective September 1st. He has been on the staff of Cornell University Medical College since 1959. Dr. Hook is particularly well known nationally and internationally for his interest in infectious diseases which affect the gastro-intestinal tract.

Facial Deformities in Children.

A clinic to help correct facial deformities in children was officially opened at the University of Virginia Hospital on May 12th. The program, sponsored by the State Health Department's Bureau of Crippled Children, will be directed by Dr. Jerry W. Bains, assistant professor of surgery, division of plastic surgery.

The Bureau already sponsors a facial deformity clinic at the Crippled Children's Hospital in Richmond and plans another in Norfolk.

Postgraduate Seminar Cruise.

Georgetown University School of Medicine has announced its fourth postgraduate seminar cruise will be to the Mediterranean on the Italian Liner S.S. *Raffaello.* It will depart from New York on October 12th and return on November 2nd.

Further information may be obtained from the Allen Travel Service, 565 Fifth Avenue, New York, New York 10017.

Physicians Wanted.

GP or internist, Richmond, Virginia, environs. Take over easily transferrable lucrative practice free; lease fully equipped 12 room clinic, laboratory, x-ray. Near JCAH Hospital. Unlimited potentials; will introduce; coverage available. Send biography to Box 80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Pediatric Practice

Available in Northern Virginia. Buy equipment and take over the lease of busy active physician. Write #150, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Surgical First Assistant Wanted

For busy, new general medical and surgical Hospital expanding to 350 beds. Finest facilities, liberal salary, predictable free time. Virginia State Boards or reciprocal eligibility required. Surgical board eligibility desirable but not necessary. Call or write the Administrator, St. Mary's Hospital, 5801 Bremo Road, Richmond, Virginia 23226. Phone 703-288-3001. (*Adv.*)

Physician Wanted

To join capable staff of 42 psychiatrists, surgeons, internists, neurologist and general practitioners in an active hospital which treated more patients than any of the 38 VA Psychiatric hospitals. Many of present staff are Board Certified or Board eligible. Specialty treatment programs—alcoholism, token economy, women veterans, therapeutic community, industrial contracts. Training program for student nurses, social workers, psychologists, adjunctive therapists, and surgical residences with several Universities. Hospital located in small college town of Salem, adjacent to Roanoke, Virginia, with metropolitan population of 200,000. Southern end of Shenandoah Valley between Blue Ridge and Alleghany Mountains. Write Thomas B. Stage, M.D., Hospital Director, VA Hospital, Salem, Virginia 24153. Equal opportunity employer. (*Adv.*)

Obituary . . . .

Dr. Edward Boisseau Robertson,

Danville, died May 9, following a long illness. He was sixty-six years of age and received his medical degree from the University of Pennsylvania in 1927. Dr. Robertson had been a member of The Medical Society of Virginia for thirty-nine years.

His wife, a son and two daughters survive him.

The Danville-Pittsylvania Medical Society notes with sadness the death of Dr. Robertson who died on May 8, 1969 in his 66th year. He had been in active practice in Internal Medicine in Danville since 1929 until he retired on account of his health in 1964.

Dr. Robertson took his academic degree at the University of Richmond and his Medical Degree at the University of Pennsylvania in 1927. He interned at Philadelphia General Hospital and took his post graduate work there. He was certified by the American Board of Internal Medicine. During World War II he served as Captain in the Army.

To all of us who knew him the memory of Boisseau Robertson will remain a challenge and inspiration. We therefore extend to his family our deepest sympathy and request that this expression of our love and respect be included in the minutes of this Society and that a copy be sent to the family and to the Virginia Medical Monthly.

J. J. Neal, M.D.
H. R. Bourne, M.D.
D. L. Arey, M.D.

Dr. Emanuel Greenspon,

Newport News, died April 24 at the age of sixty. He received his medical degree from the University of Virginia in 1932. Dr. Greenspon was a staff member of Mary Immaculate Hospital. He was a vice president of the Jewish Community Council and a past campaign chairman for the United Jewish Appeal. Dr. Greenspon had been a member of The Medical Society of Virginia for thirty-three years.

His wife, a daughter and two sons survive him.

Dr. Sam Chapman Pascoe,

Falls Church, was drowned in the Potomac River on May 18th, apparently while attempting to pull up the anchor of his boat. He was forty-four years of age and received his medical degree from Vanderbilt University in 1950. Dr. Pascoe had practiced in Northern Virginia since 1956. He was a member of the Board of Directors of the Heart Association of Northern Virginia. Dr. Pascoe served with the Navy during World War II and the Korean War. He had been a member of The Medical Society of Virginia for twenty-two years.

His wife and three sons survive him.

Dr. Smith.

Dr. Philip Stephenson Smith died at his residence in Abingdon, Virginia, March 14, 1969, at the age of 84.

He was born November 14, 1885, in Harrisonburg, Virginia. He attended Fredericksburg College, and graduated from the Medical College of Virginia in 1916. Internship at Sheltering Arms Hospital, Hansford, West Virginia, was followed by a fellowship under Dr. Douglas VanderHoof, Richmond, Virginia. He became a member of the Johnston Memorial Clinic in 1917 and this association continued until his death.

He was a Fellow of the American College of Physicians and an active member of The Medical Society of Virginia. He was active in the Sinking Springs Presbyterian Church.

Dr. Phil was eminent as a medical educator, pioneering postgraduate education in Southwest Virginia in the era when the small community hospital could have a house staff.

Several generations of nurses remember him for his teaching in the Johnston Memorial Hospital School of Nursing. For decades he and his brother, Dr. Frank Smith, traveled throughout Southwest Virginia as consultants in internal medicine. In his professional life Dr. Phil exemplified the qualities that come to mind when one attempts to define the ideal physician. Personally he was quiet, unassuming, scholarly, a sportsman and a gentleman. He was devoted to the traditions and history of Virginia.

Having never married, his life was devoted to his

profession, hospital, clinic, community and friends. Dr. Phil was a dedicated physician whose competence was matched by his sympathy and understanding.

Therefore, Be It Resolved that the Washington County Medical Society enter in its minutes these honors and remembrances of Dr. Phil Smith and copies be sent to his relatives, Southwest Virginia Medical Society and The Medical Society of Virginia.

Resolutions Committee

Stuart H. Catron, Jr., *Chairman*
H. H. Pinkerton, Jr., M.D.
S. E. Miller, M.D.

Dr. Daniel.

Donald Snead Daniel was born February 2, 1897, in Weldon, North Carolina, and died March 3, 1969, in Richmond, Virginia. The son of Jeannette Snead of Fork Union and Walter Eugene Daniel of Weldon, Daniel was educated in his home community, became a graduate of the United States School of Aeronautics of Texas in 1918, and served as a First Lieutenant in the Army Air Corps in 1917 and 1918. He received his Bachelor of Arts degree in 1920 from the University of North Carolina and in 1924 was graduated from the Medical College of Virginia.

Dr. Daniel's internship and residency training in Surgery were accomplished at the Johnston-Willis Hospital, the Medical College of Virginia, and at the then newly-opened Northampton-Accomac Hospital at Nassawadox, where he was chief resident in 1928 and 1929.

In 1929 Dr. Daniel returned to Richmond to become surgeon at the Johnston-Willis Hospital, where he practiced until his retirement in 1967. From 1965 to 1967 he served as President and Chairman of the Board of the Johnston-Willis Hospital.

During his career in practice he was active in a number of Richmond hospitals, among these the Medical College of Virginia where he was Assistant Clinical Professor of Surgery, Retreat for the Sick, Sheltering Arms, Richmond Memorial, St. Mary's, and the Pine Camp Hospital where he exercised particular leadership in the surgical treatment of pulmonary tuberculosis.

Dr. Daniel was a superb clinician, an exceptionally skillful and neat operating surgeon, being equally adept in the broad fields of general surgery, gynecology, plastic surgery, and urology. It was in the sub-specialty of urology that he had a particular interest as expressed in his publications on urologic surgical techniques in the 1930's and 1940's.

To the surgical resident and the junior surgeon, Dr. Daniel had particular appeal. As a teaching surgeon he had the rare ability to take the resident into his confidence when formulating clinical decisions and to assist and steer the learning operator in the proper direction without assuming the operation himself. His keen interest in his junior associates was matched by rare personal charm and a sense of humor which often found him laughing at himself. It is significant that one of his last papers, delivered as the presidential address of the Southeastern Surgical Association, was concerned with education of hospital house staff.

High appointments and honors came in number to Dr. Daniel. He was a Governor and strategic committee chairman of the American College of Surgeons, a Diplomate of the American Board of Surgery, and Fellow of the Southern Surgical Association. He served for nine years on the Virginia State Board of Medical Examiners. He was president of the Alumni Association of the Medical College of Virginia and a member of the Council of the Southern Medical and Southeastern Surgical Association.

Dr. Daniel's special interest in education was exemplified by the time and energy which he devoted to the Johnston-Willis School of Nursing and to Chowan College, the latter of which he served as a member of the Board of Trustees.

His devotion to his church was always evident. The original chapel of River Road Church, Baptist, stands as a kind of monument to this man who was instrumental in its design and construction. Eventually he served as chairman of the Board of Trustees of the church.

A warm, outgoing, handsome, and lovable man, Daniel is survived by a host of grateful patients, admirers, and friends. His legacy is assured not only by his professional accomplishments but also by the distinguished family which survives him.

Therefore, Be It Resolved: That the medical profession and this community has lost one of its most beloved and able surgeons, and, That the Richmond Academy of Medicine record its sorrow at the death of Donald Snead Daniel.

Be It Further Resolved: That these remembrances of his life be recorded with the minutes of the Academy and that a copy be sent to the members of his family and to the Virginia Medical Monthly.

R. D. Butterworth, M.D.
William A. Johns, M.D.
Thomas N. P. Johns, M.D.

Dr. Spengler.

Dr. Luther Campbell Spengler, Jr., Roanoke, died March 29, 1969. He was 61. Dr. Spengler was a graduate of Washington and Lee University and received his Doctor of Medicine Degree at the Johns Hopkins University, Baltimore. He received general surgical training as assistant resident and resident at

Jefferson Hospital in Roanoke and Urological training at the Brady Institute at Johns Hopkins. He then entered private practice in Roanoke where he limited his practice to the fields of proctology and urology.

Dr. Spengler served as a Commander in the U. S. Navy and was stationed in Northern Ireland for several years during World War II. Except for this tour of duty in the Armed Services he was in private practice in Roanoke from the time of completion of his training until his death.

Dr. Spengler had a deservedly large practice and is deeply missed by his many devoted patients. Because of his great kindness, loyalty and charm, L. C. is and will be missed greatly by his medical confreres. He is survived by his wife, a son and a daughter.

We move that this memorial resolution be incorporated in the minutes of the Roanoke Academy of Medicine, that a copy be sent to the Virginia Medical Monthly, and a copy sent to his wife.

Hugh H. Trout, Jr., M.D.
Fred M. Jacobs, M.D.

Dr. Seldes.

On March 1, 1969 Dr. Aaron Seldes died at his home after practicing in a semi-retired position since his original heart attack ten years ago. His life was characterized by continuous struggle to win an education against adversity and a life of service to his fellow man. He came to this country as an immigrant from Russia at the age of four in 1905. He served honorably with the United States Army in World War I after obtaining his education in the public schools of Richmond. From here he worked his way through the University of Richmond and the Medical College of Virginia and received his degree in 1924. He practiced general medicine in his neighborhood in the old section of Richmond for many years and served the people of his area until his first heart attack. After this he confined his practice to his home in the West End of Richmond and his patients traveled across the entire city to continue under his care because of their extreme loyalty to his healing ability. In 1955 he was cited by the Board of Health for 29 years of faithful service to the Well-Child Clinics. In January, 1963 he was cited again by the Jewish Family Services with a certificate of honor from the Beth Sholom Home for the Aged. Much of his professional life was in association with St. Lukes Hospital.

He not only served his community as a physician but was known by all of his friends and neighbors as an outstanding citizen, whose greatness was not hampered by his small statue and even in his declining years, he never let his repeated anginal attacks keep him from his practice. He was a devoted father and husband to his wife and four children, who survive him.

His life and practice in this city is best described in his citation from the Jewish Family Services which stated, "His only compensation was to serve humanity."

Be It Resolved that these resolutions be spread upon the records of the Richmond Academy and a copy be sent to his family.

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Warnings: Administer cautiously to patients who have previously exhibited a hypersensitivity reaction (e.g., blood dyscrasias, jaundice) to phenothiazines. Phenothiazines are capable of potentiating central nervous system depressants (e.g., anesthetics, opiates, alcohol, etc.) as well as atropine and phosphorus insecticides. During pregnancy, administer only when necessary.

Precautions: There have been infrequent reports of leukopenia and/or agranulocytosis and convulsive seizures. In epileptic patients, anticonvulsant medication should also be maintained. Pigmentary retinopathy may be avoided by remaining within the recommended limits of dosage. Administer cautiously to patients participating in activities requiring complete mental alertness (e.g., driving). Orthostatic hypotension is more common in females than in males. Do not use epinephrine in treating drug-induced hypotension. Daily doses in excess of 300 mg. should be used only in severe neuropsychiatric conditions.

Adverse Reactions: *Central Nervous System*—Drowsiness, especially with large doses, early in treatment; infrequently, pseudoparkinsonism and other extrapyramidal symptoms; nocturnal confusion, hyperactivity, lethargy, psychotic reactions, restlessness, and headache. *Autonomic Nervous System*—Dryness of mouth, blurred vision, constipation, nausea, vomiting, diarrhea, nasal stuffiness, and pallor. *Endocrine System*—Galactorrhea, breast engorgement, amenorrhea, inhibition of ejaculation, and peripheral edema. *Skin*—Dermatitis and skin eruptions of the urticarial type, photosensitivity. *Cardiovascular System*—Changes in the terminal portion of the electrocardiogram have been observed in some patients receiving the phenothiazine tranquilizers, including Mellaril (thioridazine hydrochloride). While there is no evidence at present that these changes are in any way precursors of any significant disturbance of cardiac rhythm, several sudden and unexpected deaths apparently due to cardiac arrest have occurred in patients previously showing electrocardiographic changes. The use of periodic electrocardiograms has been proposed but would appear to be of questionable value as a predictive device. *Other*—A single case described as parotid swelling.

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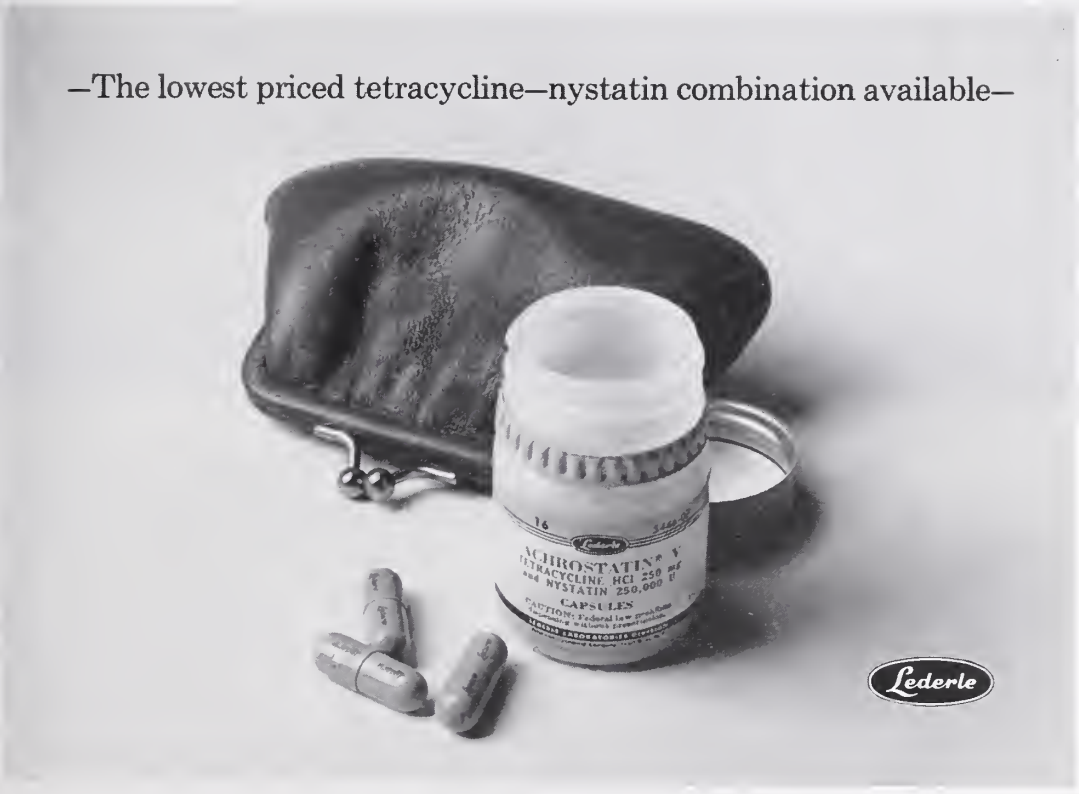
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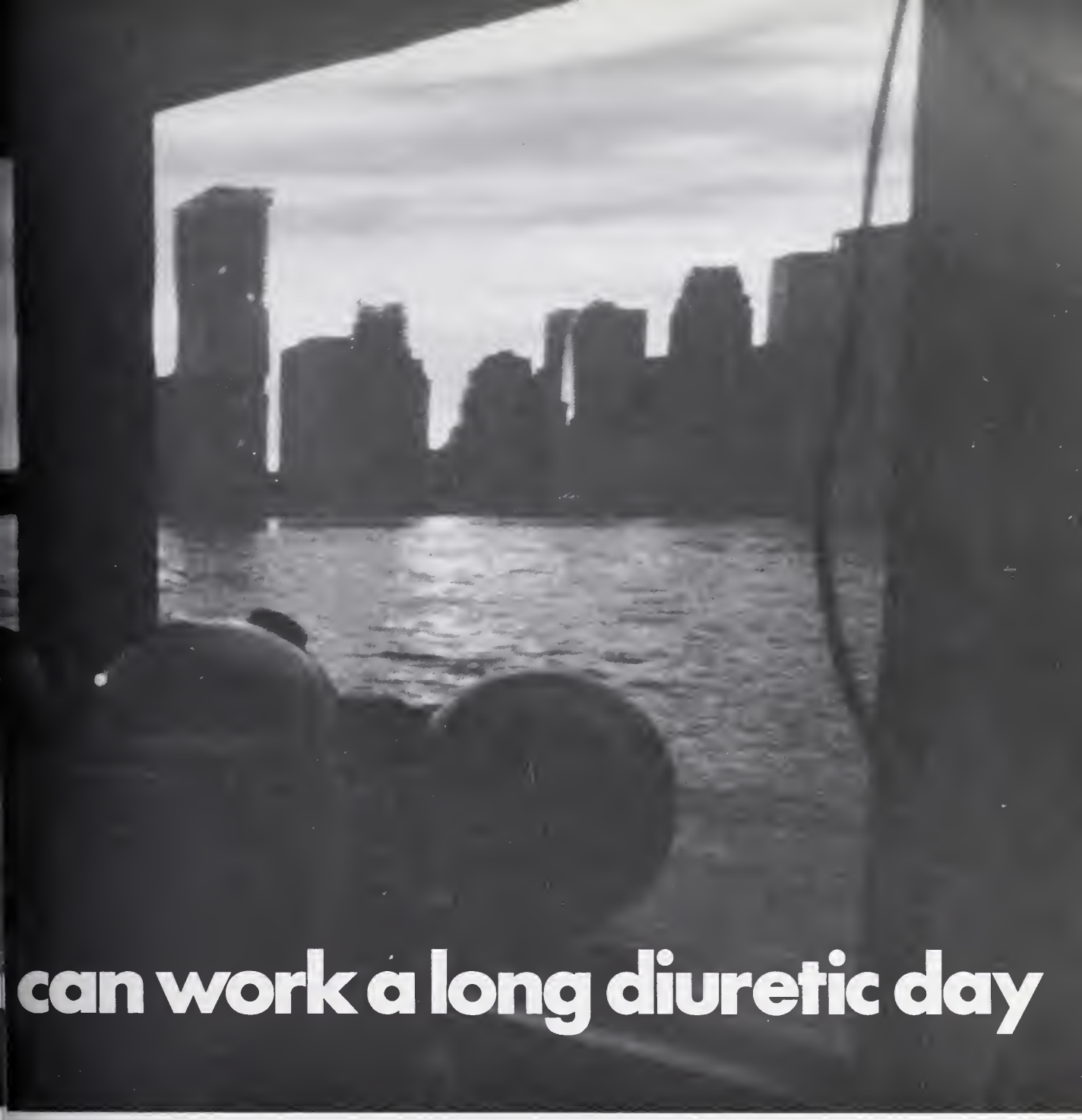
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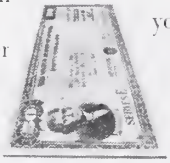
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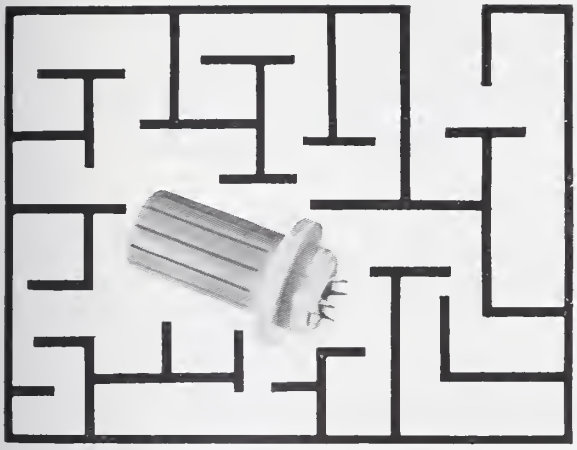
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RICHMOND 21, VIRGINIA

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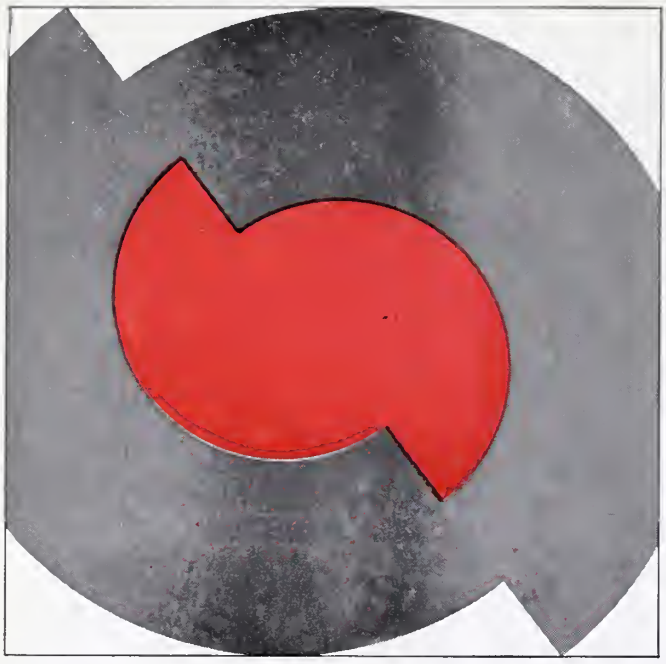
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Precautions: In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.
Adverse Reactions: (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").
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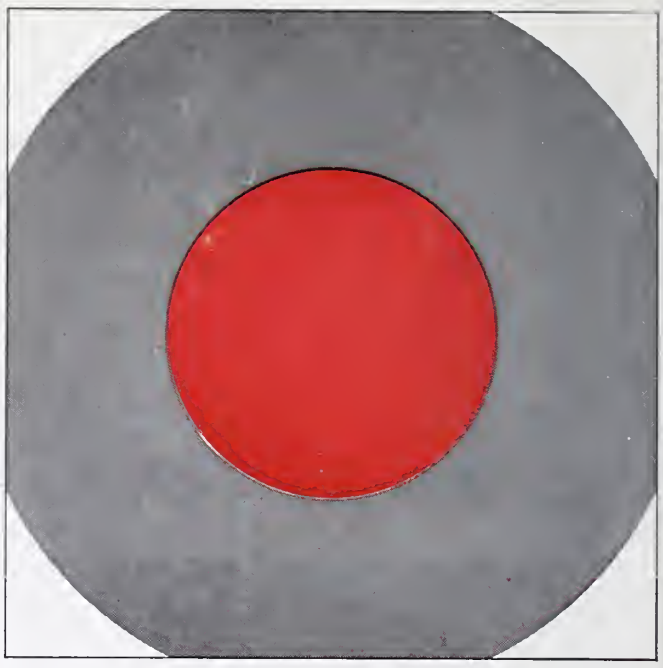
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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Indicated when anxiety, tension and apprehension are significant components of the clinical profile.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Virginia

AUGUST 1969

MEDICAL MONTHLY

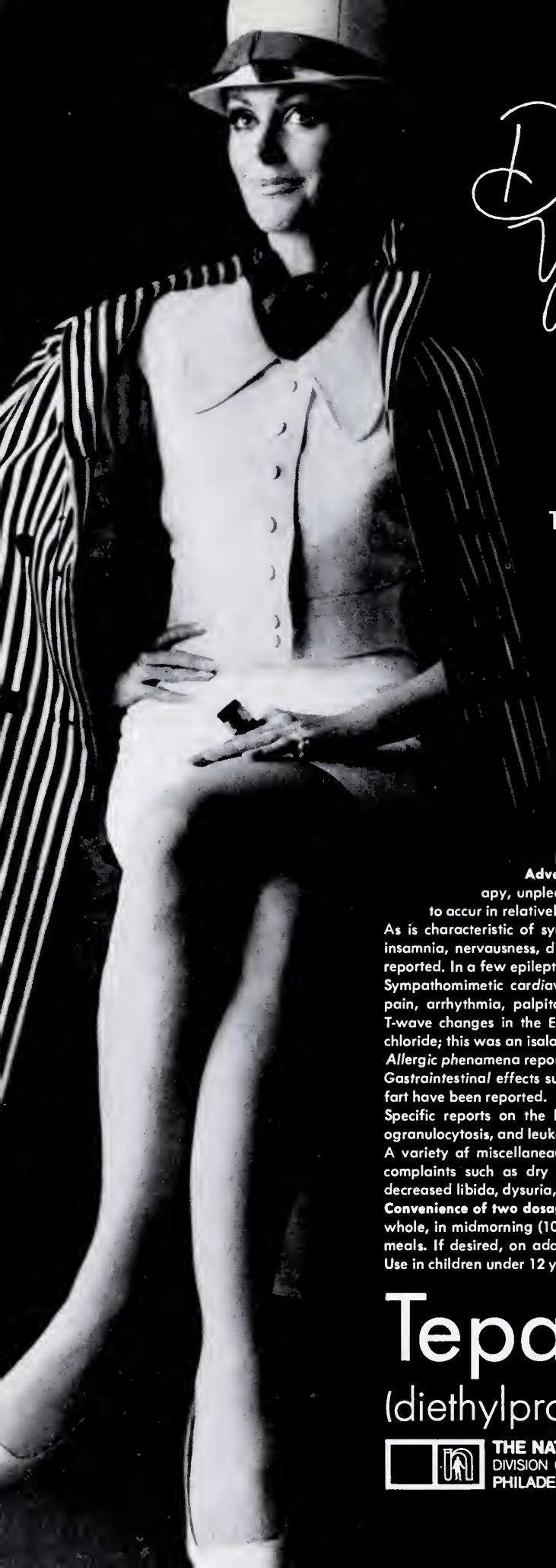
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As is characteristic of sympathomimetic agents, it may accasianally cause CNS effects such as insamnia, nervausness, dizziness, anxiety, and jitteriness. In cantrast, CNS depression hos been reported. In a few epileptics an increase in canvulsive episades has been reparted.

Sympathomimetic cardiavascular effects reparted include ones such as tachycardia, precordial pain, arrhythmia, palpitation, and increased bload pressure. One published report described T-wave changes in the ECG af a healthy yaung male after ingestian af diethylprapian hydrochloride; this was an isalated experience, which has nat been reparted by athers.

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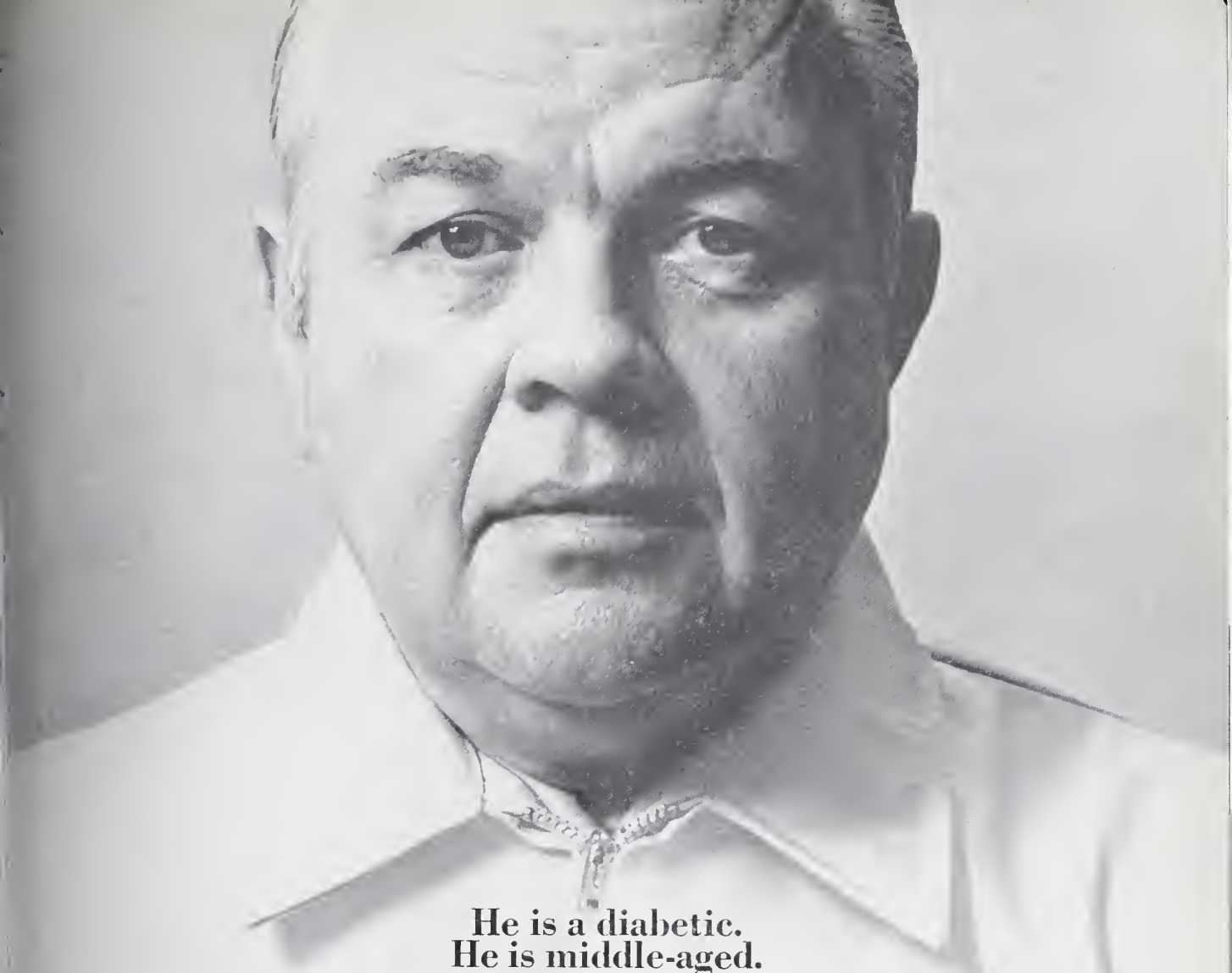
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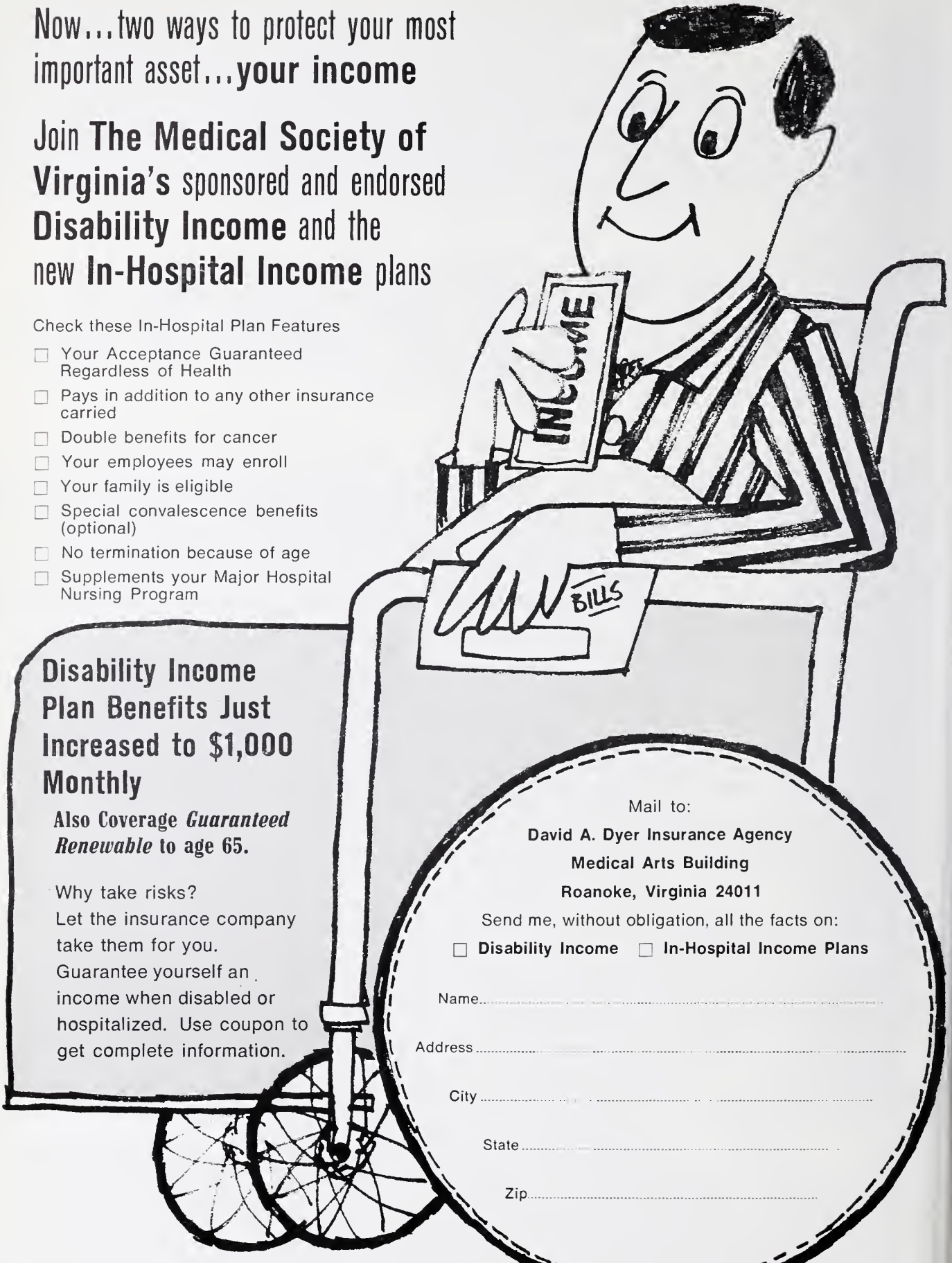
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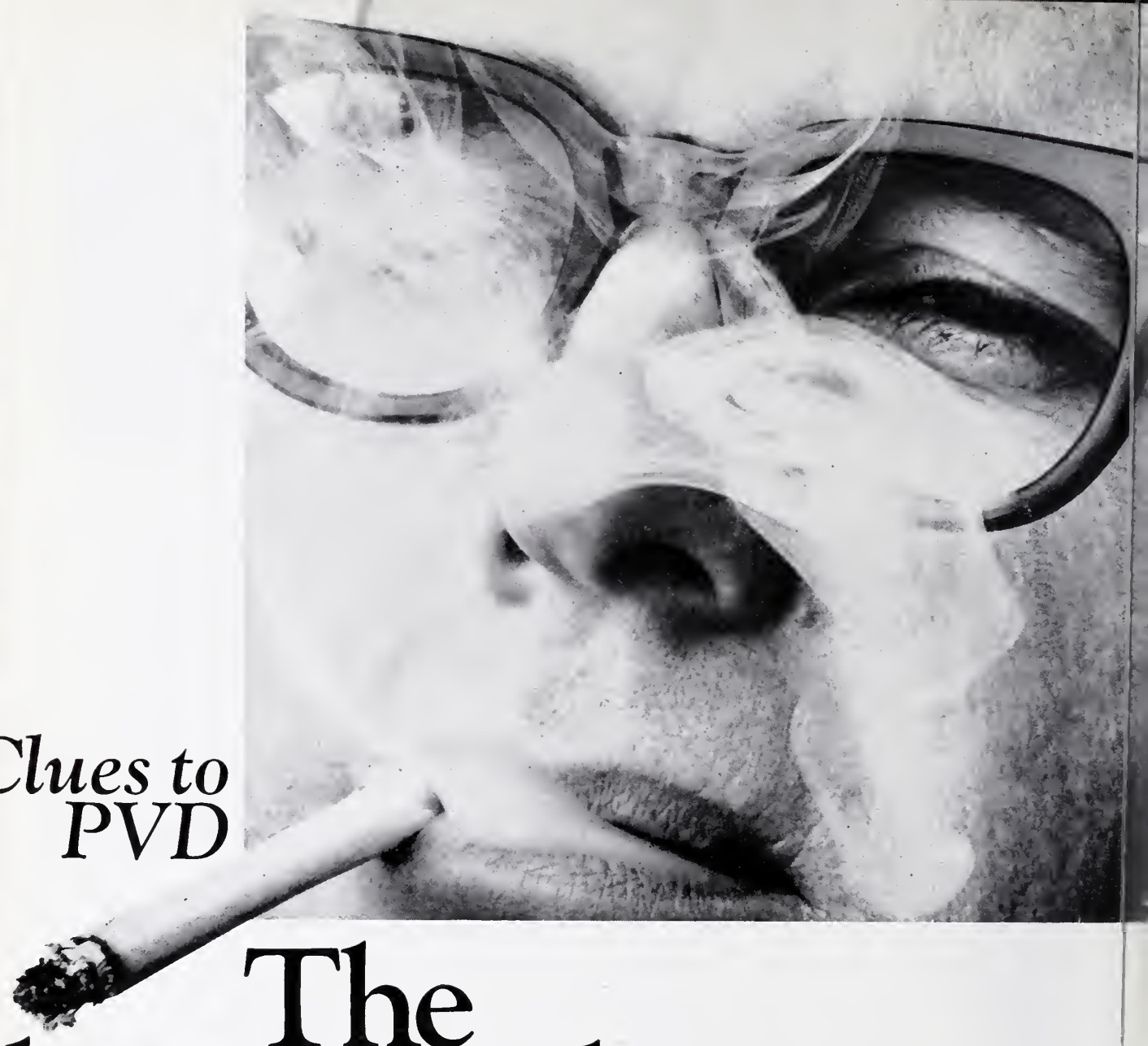
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Indications: Conditions associated with deficient circulation; *e.g.*, peripheral vascular disease, vascular spasm, varicose ulcers, decubital ulcers, chilblains, Meniere's syndrome and vertigo.

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Before prescribing, please consult complete product information, a summary of which follows.

INDICATIONS: Indicated as adjunctive therapy to control emotional and somatic factors in gastrointestinal disorders.

CONTRAINDICATIONS: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

WARNINGS: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

PRECAUTIONS: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and toler-

or here.



Though generally not recommended, if combination therapy with other psychotropics is indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

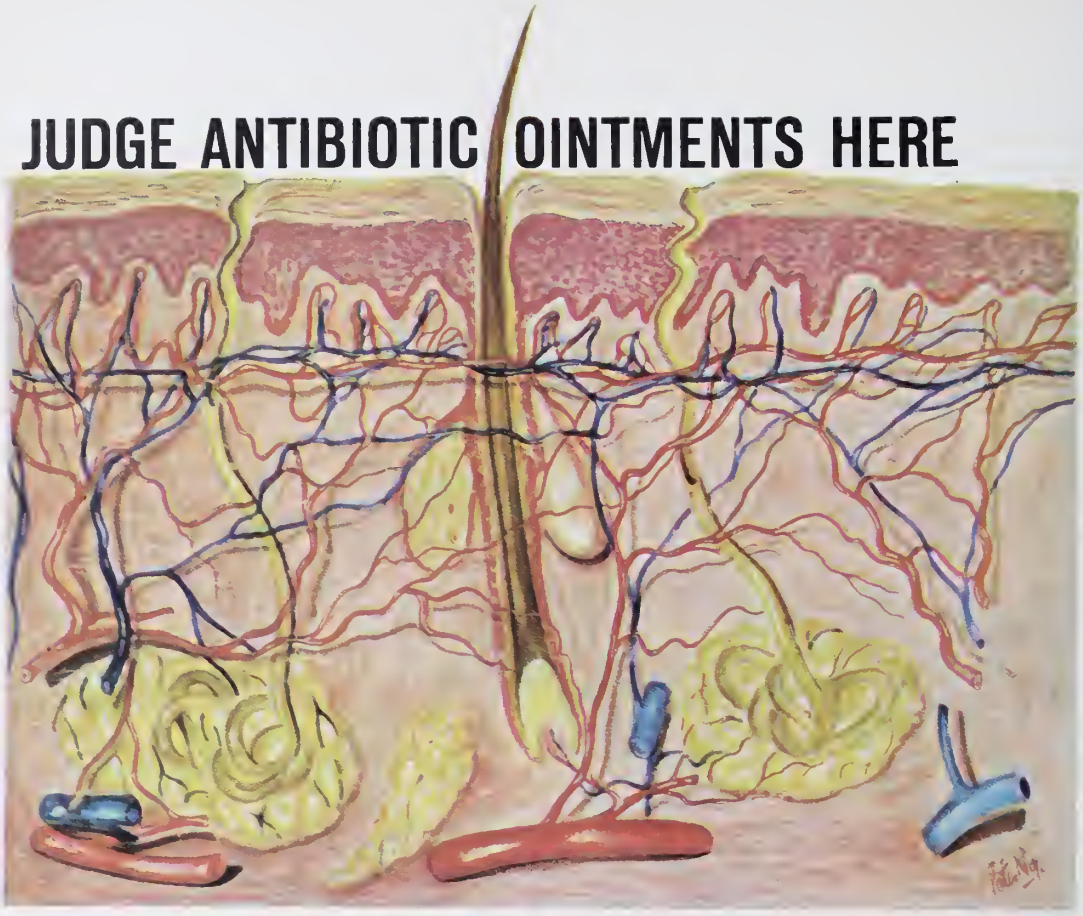
ADVERSE REACTIONS: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver-function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diet.

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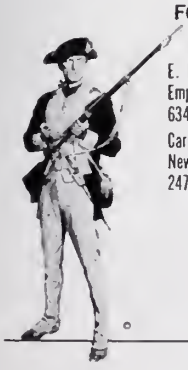
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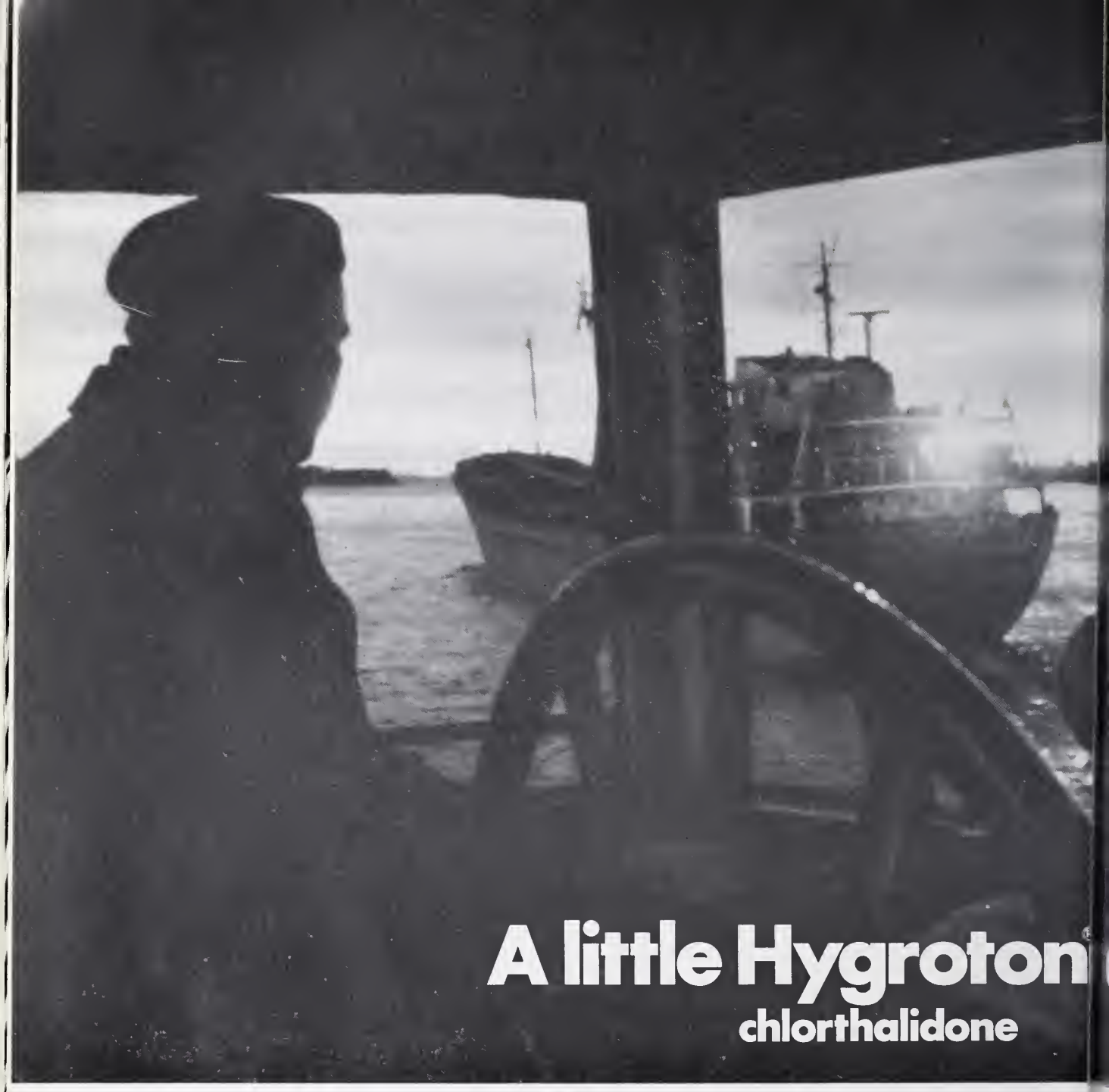
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chlorthalidone

Indications: Hypertension and many types of edema involving retention of salt and water.

Contraindications: Hypersensitivity and most cases of severe renal or hepatic diseases.

Warning: With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small-bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has been required frequently and deaths have occurred. Discontinue enteric-coated potassium supplements immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur.

Use with caution in pregnant women and nursing mothers since the drug may cross the placental barrier and appear in cord blood and since thiazides may appear in breast milk. The drug may result in fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. When used in women of childbearing age, balance benefits of drug against possible hazards to fetus.

Precautions: Antihypertensive therapy with this drug should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. Because of the possibility of progression of renal damage, periodic determination of the BUN is indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated.

Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, the drug should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.

Take special care in cirrhosis or severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended.

Adverse Reactions: Nausea, gastric irritation, vomiting, anorexia, constipation and cramping, dizziness, weakness, restlessness, hyperglycemia, glycosuria, hyperuricemia, headache, muscle cramps, orthostatic hypotension, which may be potentiated when chlorthalidone is combined with barbiturates, narcotics or alcohol, aplastic anemia, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin rashes, urticaria, purpura, necrotizing angiitis, acute gout, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Other reactions reported with this class of compounds include: jaundice, xanthopsia, paresthesia, and photosensitization.

Average Dosage: 50 or 100 mg. with breakfast daily or 100 mg. every other day.

Availability: White, single-scored tablets of 100 mg. and aqua tablets of 50 mg., in bottles of 100 and 1000.

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For full details, please see the complete prescribing information.

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Indications: For use in management of anxiety and tension occurring alone or as accompanying symptom complex to medical and surgical disorders and procedures. Though not a hypnotic, fosters normal sleep through antianxiety and related muscle-relaxant properties.

Contraindications: History of sensitivity to meprobamate.

Important Precautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use has been reported to result in dependence or habituation in susceptible persons, as alcoholics, ex-addicts, and other severe psychoneurotics. After prolonged excessive dosage, reduce dosage gradually to avoid possibly severe withdrawal reactions. Abrupt discontinuance of excessive doses has sometimes resulted in epileptiform seizures.

Warn patients of possible reduced alcohol tolerance, with resultant slowing of reaction time and impairment of judgment and coordination.

Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia, usually transient, have been reported on continuous administration.

Meprobamate may sometimes precipitate grand mal attacks in patients susceptible to both grand and petit mal. Extremely large doses can produce rhythmic fast activity in the cortical pattern. Impairment of accommodation and visual acuity has been reported rarely. After excessive dosage for weeks or months, withdraw gradually (1 or 2 weeks) to avoid recurrence of pretreatment symptoms (insomnia, severe anxiety, anorexia). Abrupt discontinuance of excessive doses has sometimes resulted in vomiting, ataxia, tremors, muscle twitching and epileptiform seizures. Prescribe very cautiously and in small amounts for patients with suicidal tendencies. Suicidal attempts have resulted in coma, shock, vasomotor and respiratory collapse and anuria. Excessive doses have resulted in prompt sleep; reduction of blood pressure, pulse and respiratory rates to basal levels; and occasionally hyperventilation. Treat with immediate gastric lavage and appropriate symptomatic therapy. (CNS stimulants and pressor amines as indicated.) Doses above 2400 mg./day are not recommended.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. (All tablets also available in REDIPAK® [strip pack], Wyeth.) Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

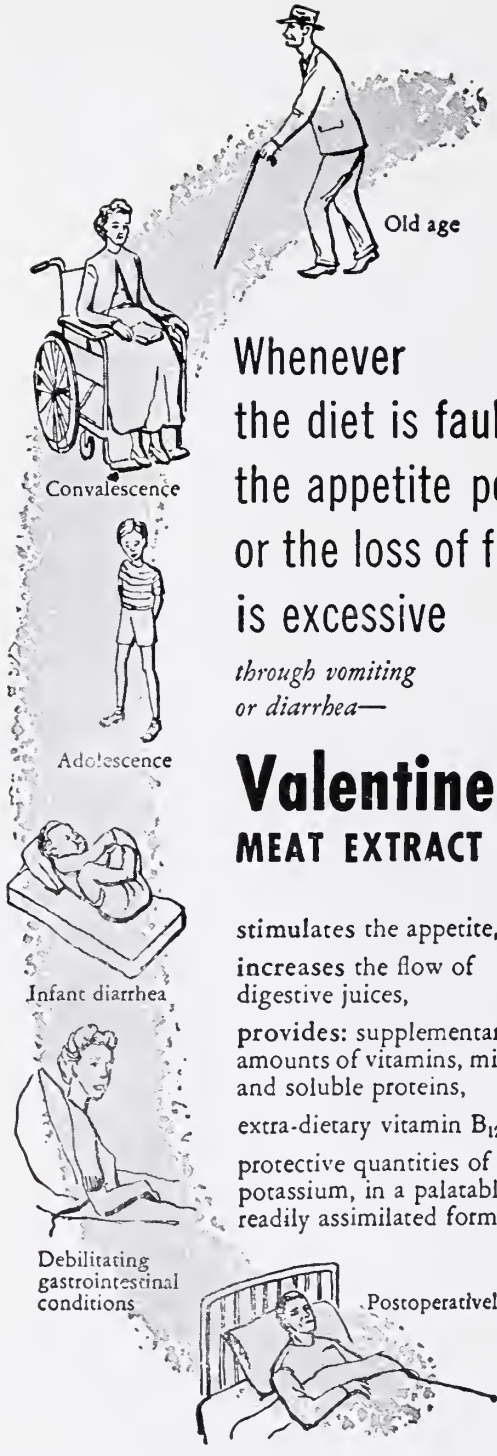
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Supplied in bottles of 2 or 6 fluidounces.

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*Avoids constipation.

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- Magnesium content helps maintain intestinal fluid volume and motility.
- Some patients may develop loose stools while taking Gelusil-M. This condition is usually dose-related, and usually responds to dose reduction.

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each 5 ml. teaspoonful contains:
500 mg. magnesium trisilicate
250 mg. aluminum hydroxide (Warner-Chilcott)
200 mg. magnesium hydroxide

*U.S. Patent No. 3,326,755

a consistent buffering anticostive† antacid

†Avoids constipation.

See next page for prescribing information ▶

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Gelusil®-M Liquid

especially for the constipation-prone patient

Indications: Gelusil-M is indicated for prompt and dependable symptomatic relief of peptic ulcer, gastritis, heartburn, hiatal hernia, esophagitis, and other conditions for which control of gastric hyperacidity is required.

Precaution: Prolonged or intensive therapy in patients with severe renal insufficiency may lead to hypermagnesemia.

Dosage: One to two teaspoonfuls (5 ml. to 10 ml.) between meals and at bedtime or whenever symptoms occur. Certain conditions, such as acute peptic ulcer, may require individualized dosage. If diarrhea occurs, reduce dosage or discontinue use.

Supplied: Gelusil-M (spearmint-flavored)—light green bottles of 12 fl. oz.; and a **special hospital pack.** Keep tightly closed—shake vigorously.

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Easy to take along / easy to take / pleasantly mint-flavored. An antacid with adsorbent and demulcent properties which contains in one tablet: 0.25 Gm. aluminum hydroxide (Warner-Chilcott) and 0.5 Gm. magnesium trisilicate (USP).

Dosage: 2 tablets—or more—between meals and at bedtime, or whenever symptoms occur. Tablets should be chewed.

Regular Gelusil® Liquid

when constipation is not a problem

Pleasant mint flavor...ideal for hospital or home. Available in 12 fl. oz. and 6 fl. oz. bottles and a special hospital pack. An antacid which contains adsorbent and demulcent agents in each 4 ml. teaspoonful: 0.25 Gm. aluminum hydroxide (Warner-Chilcott), 0.5 Gm. magnesium trisilicate (USP).

Dosage: 2 teaspoonfuls (4 ml. each)—or more—between meals and at bedtime, or whenever symptoms occur.

Also Available: Gelusil® Flavor-Pack, Gelusil-Lac®.

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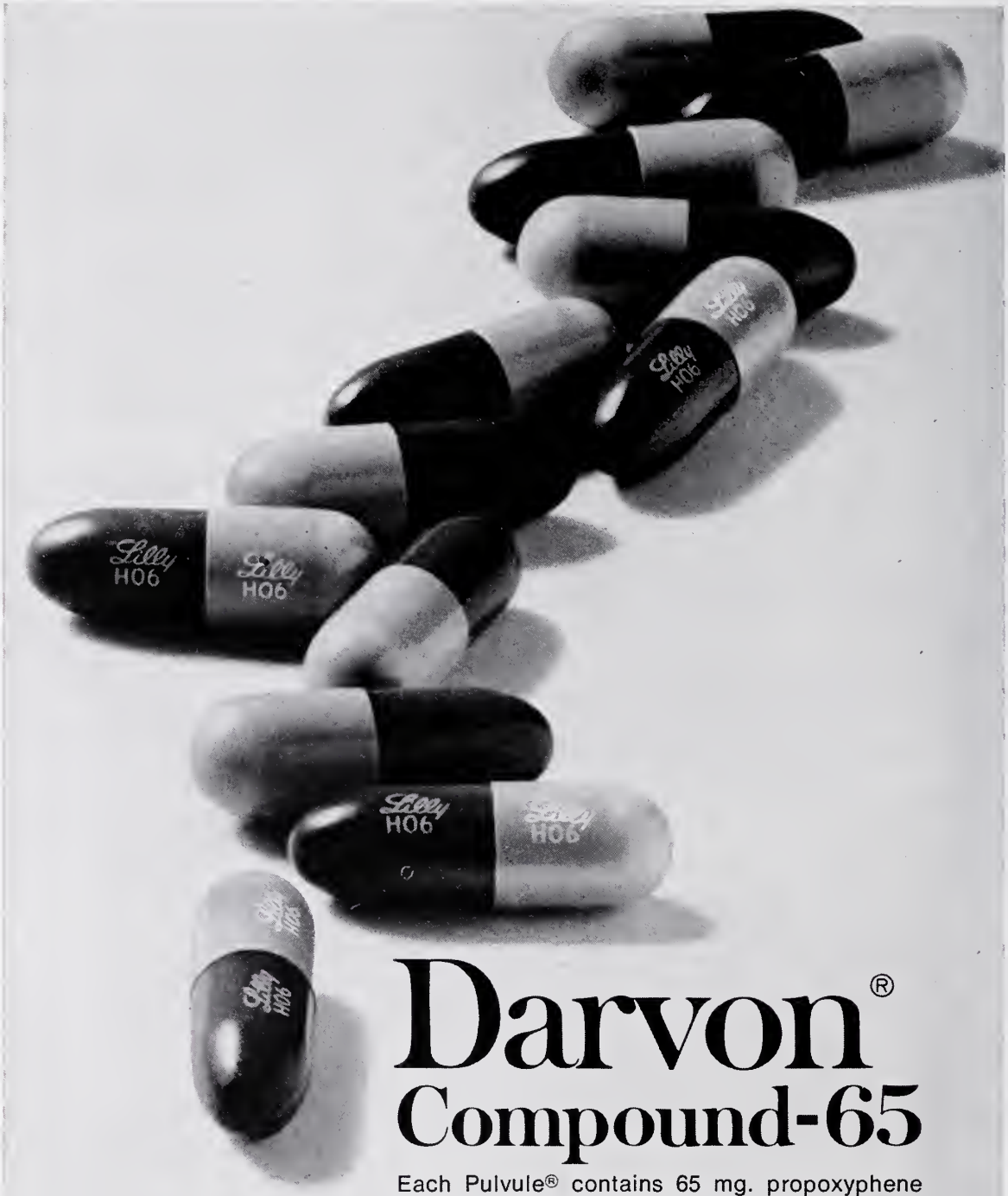
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The Virginia
MEDICAL MONTHLY

August, 1969
Vol. 96, No. 8
Whole No. 1407

Guest Editorial . . . .

Spasticity Resulting from Upper Motor Neurone Lesions and the Gamma Loop

SPASTICITY in patients with upper motor neurone lesions is a seriously limiting factor in patient care and rehabilitation. This pathophysiologic condition, if more than mild, can and usually does cause deterioration: physically, psychologically and economically. Spasticity with its complications: pressure sores, genitourinary deficiencies, inability to care for self in activities of daily living, and major nursing needs constitutes a medical catastrophe of large proportions. This condition involves many more people than would be indicated on casual observation. It is estimated roughly that 2.5 million people suffer from upper motor neurone lesions; approximately two million of these are hemiplegics and at least one-half million cerebral palsy, other head injured, paraplegics and quadraplegics.

It is also a condition that is growing in numbers resulting from marked improvement in the treatment of the acute stroke and the increasing number of head injuries resulting from accidents, predominately automobile and motorcyle. Of the upper motor neurone lesions about 15 percent of the cord injured will have flaccid paralysis and a few of the mild stroke cases will recover with no or very little spasticity. Of the others the probability of residual spasticity is extremely high. The knowledge of the spasticity phenomenon, although incomplete, has progressed a long way since World War II when we were faced with the spasticity of the cord injured service man.

It is now generally accepted that spasticity is a "release" phenomenon. This theory was indicated as early as 1919, as reported in Dr. O'Hanlan's article (in this issue of the Virginia Medical Monthly), but the prevailing concept, until the middle 40's, was that of a "splash" phenomenon.

The "splash" concept was based on the theory that as the insulation on the nerves of the cerebral cortex was destroyed that cortex activity would splash to surrounding fibers.

When spasticity develops in paraplegics with a part of the cord destroyed and even removed by surgical procedures, the "splash" theory could no longer hold. Unless we actually were dealing with two phenomena, (1) a splash phenomenon in cortex damage, and (2) a stretch reflex type of activity in the extremities, neither of these theories gave real comfort. I have heard them argued pro and con, often in a most heated fashion, but when the argument was over, no one was left feeling secure. With better understanding of the Gamma Loop, referred to in Dr. O'Hanlan's article, the pieces in this puzzle are now beginning to fall into place. There is reason now for real hope that we may be able to control this devastating condition.

A. Ray Dawson, M.D.

Editor's Note: Dr. Dawson is Professor and Chairman of the Department of Physical Medicine and Rehabilitation, Medical College of Virginia, Virginia Commonwealth University, Richmond.

The Use of 45% Alcohol to Control Spasticity

J. TREACY O'HANLAN, M.D.
HUBERT R. GALFORD, B.S.
JUDITH BOSLEY, B.S.
Fishersville, Virginia

This is a preliminary study of the use of 45% alcohol to control spasticity. Results are encouraging.

AT THE Woodrow Wilson Rehabilitation Center, Fishersville, Virginia, spasticity, as seen in paraplegia, quadriplegia, cerebral palsy, and hemiplegia is controlled by injection of 45% diluted alcohol directly into the muscle body. The amount used depends on the type of case and the severity of the spastic muscle or muscle groups.

Stretching by the therapist is the usual modality in physical therapy to overcome the shortening of the muscle which results from spasticity. It is an effective means as long as the therapy session lasts but must be repeated at the very next session as there is little carry over. Numerous surgical procedures have been developed, such as tendon lengthening, myotomies, neurectomies, etc., but by their very nature attack the result of the spasticity and not the cause. Most of these procedures also call for long periods of immobolity which further potentiates the spasticity and thus the results are defeated at the onset.

The work of Tardieu[1] et al. in the treatment of spasticity in cerebral palsy was used as a guideline in our investigation, and further elaborated to control spasticity in other disabilities. As stated by Tardieu, the object of his investigation was to seek relief of spasticity but at the same time not to cause loss of sensory or motor power. In certain disabilities, such as hemiplegia, quadriplegia and paraplegia, the underlying voluntary control is present, but is inhibited by overactive gamma stretch reflex with resultant "feedback" spasticity in isolated muscle groups. Such spasticity, therefore, inhibits voluntary motion of the affected limb and retards the rehabilitative process.

The use of Lignocaine injected into the muscle body of the decerebrate cat was first studied by Liljestrand and Magnus in 1919 and later by Matthews and Rushworth in 1957.[2] The effectiveness of the local anesthetic was seen in controlling spasticity in the injected limb while spasticity was prominent in the un-injected limb. The theory of the so-called "gamma loop" was hypothesized and placed into the literature.[3] Tardieu, Hariga and Gagnard in 1960 used alcohol in varying strengths to evaluate control of spasticity in decerebrate dogs. It was this experimentation that established the use of 45% alcohol in clinical practice. It is felt that procaine, dilute alcohol, and dilute phenol tend to demyelinate the small nerve fibres in the neural bundle (perineurium) and muscle while the larger nerves remain unaffected.[1]

The theory of the so-called gamma loop or gamma stretch reflex varies according to the investigators and changes with the time. The terminology used by investigators also must be clarified before any discussion can take place.[4] In essence, the alpha motoneuron from the anterior horn cells in the spinal cord innervates the extrafusal fibres in the muscle. The intrafusal fibres, however, receive the nerve supply from the gamma motoneuron traveling in the same

From the Woodrow Wilson Rehabilitation Center, Fishersville.

nerve bundle with the alpha motoneuron. The gamma motoneuron receives control from higher centers in the brain. (Fig. 1) In

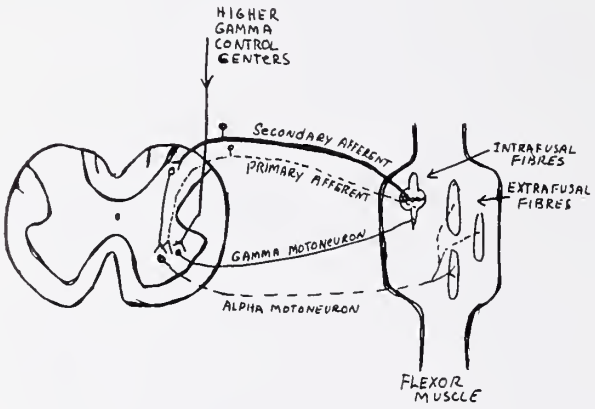


Fig. 1

spinal cord injuries and brain damage, central control may be lost and thus the gamma motoneuron to the intrafusal fibers may react to stretching by causing spasticity. According to Jeffrey, "In the presence of external stretch, activation of the fusimotor system may so increase the sensitivity of the spindle that the freqeuncy of afferent discharge is markedly increased—i.e. as occurs in spasticity and rigidity." Spasticity, therefore, can be said to be due to loss of gamma central control with resultant increased spindle sensitivity and consequent contraction of the muscle belly.

The clinical application of the theory of the "gamma loop" is more important than the theory itself. Tardieu, et al., used 45% alcohol on children with cerebral palsy and their results with such treatment are well known. They also used the same solution in the epidural space for control of "mass" spasticity. According to Halpern and Meelhuysen, of the University of Michigan, in 1966 the use of alcohol in the muscle produced relief of spasticity for too short a time.[5] They elaborated on the work of Cain and Liebgold in the use of dilute phenol injected through a Teflon coated needle into the motor point of the nerve. According to them the technique was difficult, painful, and time consuming but, in their hands, the results were excellent. Many clinicians do not have the time, equipment, experience or daring to inject this sclerosing agent, phenol, into muscles, and after further review of the work of Tardieu, injection of alcohol appeared to be the simplest, easiest, and least painful method, and the results were equally as good. The fact that the results were not long lasting can be overcome by another injection. Control of spasticity can be carried out early in the disability, therefore preventing serious soft tissue contractions and other complications of spasticity.

In our Center we are receiving an increasing number of spastic quadriplegics, paraplegics, and hemiplegics. Control of spasticity is imperative before the activities of daily living can be taught. Prior to our use of alcohol, therapy consisted of stretching, splinting and possibly surgery. Spasticity in the spinal cord injured lead to other problems such as pressure sores of trochanters, heels and sacrum which could also be attributed to poor medical care. Precious time in therapy was lost taking care of the complications of spasticity.

The cases presented for injection of 45% alcohol have only one thing in common, i.e. spasticity which interferes with rehabilitation. The most common site of injection was into the spastic gastrocnemius and soleus muscles which prevented ambulation. Spasticity of the hamstring muscles likewise was common in the partial paraplegic and hemiplegic and prevented the use of long leg braces. Feeding is a problem with upper extremity involvement when the brachii biceps are spastic, and injection with 45% alcohol would relieve spasm but not produce paralysis. This is important. The flexors of the wrist and fingers can likewise be injected with immediate relief of spasm and not interfere with voluntary motion. Thus we have a simple, effective way to decrease spasticity which is not dangerous or harmful to the patient and is easy for the clinician to perform. The therapist,

therefore, can concentrate on soft tissue contracture stretching, functional bracing, to enhance therapy.

Technique

Forty-five percent alcohol for injection must be compounded by the pharmacist using 2 cc. ampules of absolute alcohol (Abbott) or using absolute alcohol (NF) diluted to 45% with sterile water and placed in sterile 30 cc. vials. It is important *not* to use commercial absolute alcohol available in state liquor stores as it is not chemically pure. Cultures of the solution for injection are sent to the laboratory to test for possible contamination.

The patient is evaluated by the therapist and the clinician and the muscles or group of muscles, which are spastic and interfering with the activities of daily living, are identified. The muscle is then placed in a state of spasticity by stretching and injected. A 10 cc. syringe with a long 22 gauge needle is used. The needle pierces the skin and enters the spastic muscle which is held between the index finger and thumb. Quadrant placement of alcohol is used at multiple sites of injection. The amount of alcohol used in the muscle belly depends on the size of the muscle and size of the patient. We make no effort to locate the motor point. We have varied from Tardieu's technique as we tend to use more alcohol through more sites of injection. In an adult hemiplegic we would inject the biceps with 20 cc. of 45% alcohol through three sites. The gastrocnemius and soleus muscles would require about 30-40 cc. through six sites of injection. The wrist and finger flexors require proportionately less alcohol. In cerebral palsied children, the adductors of the thigh would require about 10 cc. of alcohol on each side. The injection itself is relatively painless, but there is some residual soreness from the injection in the hemiplegic and cerebral palsy patient.

We do not attempt to walk the partial paraplegic or the hemiplegic immediately after lower extremity injection, as the effects of alcohol are quite evident and the patient may fall. The legs are wrapped in elastic bandages and therapy is instituted after 24 hours. While injecting the muscle one can feel the spasticity melt away, and the results are evident immediately. In the earlier cases we were evaluating our expected results by first injecting 1% Xylocaine into the spastic muscle. If the results were satisfactory, this was then followed by injection of 45% alcohol. The Xylocaine technique was discontinued as it was time consuming and meant two injections instead of one. However, it still can be useful in cases of the doubting patient, or doubting parent who will allow Xylocaine injection but have reservations about alcohol.

Complications

In the earlier cases phlebitis was a problem due to impurities in the alcohol. In these cases we used "state store" alcohol and mixed it with sterile water at the bedside. For this reason the technique was discontinued until we learned of Abbott Laboratory's ampules of alcohol. Since using the newer pure alcohol, with the commercial pyrogens removed, we have had no phlebitis.

The use of anticoagulants by the hemiplegic presents a problem of hemorrhage into the muscle and subcutaneous tissue. The patient should be reverted to a normal prothrombin time before injection.

Results

Even though a small number of cases are presented, it is done so enthusiastically in order to get this information into the hands of clinicians and therapists who handle this most perplexing problem. Our results have been excellent so far. If necessary, the injections can easily be repeated. It can be done in the office, hospital or rehabilitation center with a minimum of equipment, help, or expense. We intend to continue the technique and report at a later date. The following cases are presented:

Case 1., D. M.—W-14,932.

This 22 year old male was injured in an automobile accident April 28, 1968. He suffered an incomplete paraplegia at level T-5 and T-6. On the day of admission to the hospital, decompressive laminectomy and posterior fusion was done T-5 to T-9. When seen in clinic in November, 1968, the muscles of the left hip had good strength. The quadriceps on the left side had fair strength. The hamstrings were fair to weak. There was marked quadriceps spasticity and adductor spasticity which constantly scissored his knees in walking. November 15, 1968, the quadriceps femoris bilaterally and the adductors bilaterally were injected with alcohol using 45 cc. of 45% alcohol for the total amount. There was immediate relief of the extreme spasticity, and the patient was allowed to discard his long leg braces and was able to walk in the walking bars. One month later he walked constantly throughout the day using an aluminum walker. The spasticity was no longer present and he could dress himself and complete all of his activities of daily living. A right, short-leg drop-foot brace with a Klenzak ankle was prescribed to correct the foot drop and assist in ambulation.

Case 2., R. F.—W-14,025.

On March 15, 1965, this 26 year old male sustained a gun-shot wound to the right side of neck resulting in carotid artery injury and hemiplegia of the left side. He had been fitted with a "Handy-hook" with a shoulder harness. When admitted to Woodrow Wilson Rehabilitation Center he exhibited severe spasticity of the biceps muscle, the wrist flexors, and the finger flexors on the left side. Attached to the dorsum of the wrist was the "Handy-hook". He was being trained in the Welding School but, because of the hook, was having difficulty. In October, 1968, the left biceps muscle was injected with 30 cc. of 45% alcohol using quadrant type of injection with immediate relief of the spasticity of the biceps muscle. After a period of therapy, the strength and the voluntary motion of the biceps muscle improved, and the brachioradialis was then injected with excellent results. One month later the wrist flexors were injected, using 20 cc. of 45% alcohol with excellent results. On the basis of the almost full extension of the elbow and the wrist, and because of the weak finger extensors, he was fitted with a flexor-hinged, wrist-driven hand splint and returned to Welding School to complete his entire Welding Course and was graduated as a Welder.

Case 3., McK. H—W-14,260.

This 30 year old male was injured in a fall in his own home December 10, 1967. He suffered a complete quadriplegia with inability to move his arms and legs. The arms were in acute flexion across the chest and resistant and spastic to any type of movement. The knee flexors and hip flexors likewise were spastic and interfered with any type of therapy. On April 23, 1968, after admission to this Center, 10 cc. of absolute alcohol was injected into the spinal canal for control of spasms of the lower extremity and persistent priapism. The ulcers of the heel were removed by an ostectomy of the os calcis bilaterally. However, the acute flexion of his arms interfered with activities of daily living. While in the hospital, on April 28, 1968, the biceps muscle on the right side was injected with 20 cc. of 45% alcohol with complete relief of spasticity but no interference with voluntary biceps function. The biceps then functioned from a fair to good range. The extension was limited at approximately 160° by soft tissue contraction. On April 29, 1968, the left biceps was injected with complete relief of spasticity. The patient was able to move both the forearms by flexion of the biceps. The triceps was completely atrophic due to injury and extension occurred by gravity. Because of 45% alcohol injection of the biceps, the patient is now

able to assist with his activities of daily living, propel his wheel chair, and is undergoing upper extremity exercises. The wrist flexors show slight return of voluntary motion at present.

Case 4., T. B.—W-14,548.

This 28 year old white male was involved in a truck accident suffering a fracture dislocation of T-9 which was reduced immediately and followed by a fusion. He was a paraplegic but has regained almost completely his sensory function in the lower extremities. He had regained considerable active muscular function of the hips and thighs, but he was constantly plagued with severe spasticity of quadriceps femoris and gastrocnemius in both legs. Brace walking was difficult because of "toe-off" spasms and severe quadriceps spasticity. On November 15, 1968, the gastrocnemius and soleus muscles on both sides were injected with 45% alcohol using 30 cc. in each leg. This completely abolished the "toe-off" spasticity of the calves. Then the vastus lateralis muscles and tensor fasciae latae were then injected a week later using 20 cc. in each muscle group with immediate and complete relief of spasticity. The patient was then able to put his braces on and in a very short time used brace walking as a functional activity. Since the time of injection there has been a minimal return of spasticity. At the present time, he has "control spasticity" of the right quadriceps to control knee flexion; but, because of his activity, the spasticity does not interfere with his application of braces or brace walking. There has been no impairment of sensory function.

Case 5., D. C.—W-15,112.

This 22 year old white male was injured in an automobile accident on May 22, 1968, and suffered a partial paraplegia at the level of T-12. A laminectomy was done on the day of the accident. Immediately after laminectomy, he showed considerable return of function and sensation to both lower extremities. He was admitted to Woodrow Wilson Rehabilitation Center January, 1969, but showed severe spasticity of gastrocnemius muscles bilaterally which interfered with his comfortably walking in braces and safely using crutches. He stated that he was thrown to the ground on many occasions because of the "toe-off" spasms of the gastrocnemius. The right quadriceps likewise caused extension spasm of the knee and when walking, both quadriceps would be in clonic type of spasm. On January 20, 1969, 30 cc. of 45% alcohol was injected by multiple injections using the quadrant type for dispersal of alcohol. There was immediate relief of spasticity of the gastrocnemius muscles bilaterally and the patient was able to ambulate without the usual "toe-off" spasm. The quadriceps on the right side was not injected but allowed to remain spastic in order to stabilize the right knee during ambulation. At present he is able to ambulate functionally with a right short-leg brace and crutches.

Case 6., O. K.—W-14,681.

This patient is a 43 year old white female who suffered a ruptured cerebral aneurysm with a resultant subarachnoid hemorrhage. A right hemiplegia was then manifest and conservative treatment was carried out during her acute phase. When admitted to Woodrow Wilson Rehabilitation Center in March, 1968, she exhibited a right hemiplegia with spasticity of the gastrocnemius and soleus and semitendinosus muscles. The spasticity interfered with her activities of daily living. In brace walking, because of the spasticity in gastrocnemius, her heel would come out of her shoe. She could not fully extend the brace at the knee in order to lock it for ambulation; therefore, a turnbuckle had to be put in place at the knee. The therapy was difficult because of the pain of stretching and spasticity; and on November 30, 1968, the gastrocnemius and soleus muscles on the right side were injected

using 30 cc. of 45% alcohol through multiple injection sites. There was immediate relief of spasticity. One week later the semitendinosus muscle was injected throughout its entire length, relieving the spasticity of this muscle which was causing acute knee flexion. With the knee in full extension, the turnbuckle was removed. The patient has made remarkable improvement in carrying out her own activities of daily living and in walking since relief of spasms was attained with the alcohol. At present, she is walking unassisted in a walker using a long-leg brace, and this soon will be reduced to a short-leg brace.

Case 7., J. L.—W-15,032.

This 26 year old male was injured in an automobile accident April 28, 1968, in which he received a fracture dislocation of C-5 on C-6. On May 16, he had a cervical spine fusion of C-4, C-5, and C-6. He has regained use of his upper extremities on both sides. However, the lower extremities show "mass" type of spasticity which seemed to be triggered off by the hip extensors causing marked tonic and clonic spasticity of both lower extremities. This interferes with sitting in a wheel chair and any functional activities. Because of poor return of the finger flexors, bilateral flexor-hinge splints, wrist driven, were supplied to the patient. The spasticity of the lower extremities kept him bedridden until the quadriceps muscles were injected with 30 cc. of 45% alcohol on each side, thereby relieving spastic knee extension. However, hip extension was still throwing him from the wheel chair and it was elected early in February, 1969, to do an intraspinal injection of 45% alcohol. Ten cc. of alcohol were injected into the L-1, L-2 interspace, thereby gaining complete relief of extension and flexion spasticity of both lower extremities. It is remarkable that the small amount of sensation present on the lateral side of both thighs was preserved. From his wheel chair he now carries out functional and occupational therapeutic exercises using his hand splints. This patient will function from his wheel chair.

Case 8., E. C.—W-14,202.

This 35 year old female fell from a porch in 1963 and suffered a fracture dislocation T-6 on T-7. The lower extremities were extremely spastic and interfered with her activities of daily living such as dressing, sitting in a wheel chair and physiologic standing. She was treated for multiple pressure sores of the hips and the sacrum due to spasticity of the lower extremities. On January 7, 1969, because of the severe flexion spasticity of both lower extremities, 12 cc. of 45% alcohol were injected in the intraspinal space with the patient in the Trendelenburg position. There was immediate relief of spasticity in both lower extremities. The patient was then able to lie in bed comfortably, sit in the wheel chair without spasms and complete activities of daily living such as dressing herself and moving about in the wheel chair. She will now resume her vocational objective of a commercial seamstress.

Case 9., D. B.—W-15,134.

This 19 year old white male is a quadriplegic as a result of a C-6, C-7 injury obtained while wrestling in the state high school tournament. He was hospitalized continuously because of pressure sores until admitted to Woodrow Wilson Rehabilitation Center on January 17, 1969. On admission he had extreme extensor spasticity of both lower extremities and had had extensive plastic surgery because of ulceration of the greater trochanters on the hips. The spasticity interfered with any type of functional or therapeutic exercises. The spasticity involved the abdominals, the hip extensors, knee extensors and a gastrocnemius on both sides. He was unable to turn himself or sleep through the night and was extremely unhappy. On January 28, 1969, 12 cc. of 45% alcohol were injected at the D-12—L-1 into the subarachnoid space

with complete relief of spasticity of the abdominals and both lower extremity extensors. The patient was now comfortable and could be placed on the tilt table for sitting tolerance. At this writing, he is able to function from his wheel chair and is happy to be relieved of the spasticity.

Case 10., H. T.—Age 12.

Severe spastic Cerebral Palsy and mental retardation: This patient was referred for alcohol injection because of painful hamstring spasms which made him cry out at night. Spasticity of the adductors of the thigh made application of diapers a painful chore. On April 6, 1969, the adductors of the thighs were injected with 20 cc. of 45% alcohol with immediate relief of scissoring of the knee. One week later the hamstrings on each side were injected with 20 cc. of 45% alcohol through six sites. There was immediate relief of spasticity, and the mother states he no longer cries out at night.

Case 11., G. W.—64 years old.

Physician, Cerebral Thrombosis with left hemiplegia: This 64 year old internist had a cerebral thrombosis in 1963 with left hemiplegia. He had recovered somewhat but spasticity of the biceps and deltoid muscle prevented any use of the left arm and hand while gastrocnemius and soleus spasms prevented "heel strike" in gait training. He walked on his toes and was most discouraged about ever returning to work. He was admitted to the Waynesboro Community Hospital for evaluation April 13, 1969, and the biceps muscle was injected with Xylocaine for his own professional evaluation. There was immediate relief of spasticity and thus alcohol was injected. He waited twenty-four hours to evaluate the alcohol results and was pleased. He requested the deltoid, gastrocnemius and soleus be injected. He received intensive physical therapy consisting of stretching of soft tissue contractures and range of motion, and he practiced placing imaginary x-rays in front of a view box. The deltoid injection allowed him to relax his arm at the shoulder. He was able to ambulate without a short foot brace and had a solid heel strike. He was pleased with the results and intends to return to work.

Case 12., S. R., Cerebral Palsy.

This 12 year old male with severe spastic cerebral palsy was treated as an "outpatient" in the emergency room of the Waynesboro Community Hospital. Prior to being seen, he had had multiple surgical procedures for spasticity of the hamstring group of muscles. An obturator neurectomy was done some years before to relieve spasticity of the adductors of the thigh. When seen on April 21, 1969, he exhibited severe spasticity of the hamstrings, biceps brachii and wrist flexors. Since he weighed 60 pounds, smaller amounts of alcohol were used in the above muscle groups with excellent relief of spasticity but with preservation of voluntary function. Long leg braces were easier to apply and walking is now considered. The short flexors and opponens pollices muscles of the thumb were later injected with 45% alcohol to control flexion of the thumb and opponens activity. The results of all injections have been gratifying in the control of spasticity. Crying out at night due to painful spasms of the hamstrings has been eliminated.

Summary

Spasticity of muscles or groups of muscles can seriously inhibit the rehabilitative process. Over stimulation of the gamma loop by the stretching of muscles is presented as a cause of spasticity. Control of spasticity by the easiest method is imperative. Forty-five percent alcohol can be injected into the muscles for control of spasticity. No harmful effects from the injection of alcohol have been seen. It can decrease spasticity in the hemiplegic, quadriplegic, or paraplegic pa-

tient. Isolated spastic muscles will relax after injection in the cerebral palsied child. Forty-five percent alcohol can replace absolute alcohol when the latter is considered to be used intrathecally.

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Resolutions from Virginia Physicians Association

Whereas: The State Health Commissioner of Virginia, Dr. Mack I. Shanholtz, on page 219 in the April 1969 issue of the Virginia Medical Monthly in an article pertaining to Medicaid stated:

> "Specifically, there is not a chest specialist located between Roanoke and Kingsport so if the needy are to have the benefit of a good examination of the chest, where differential diagnosis is in order, the specialist must be imported. At the present time, such a specialist can only be seen at one of the State Health Department's regional chest clinics."

and, Whereas: Such a statement is irresponsible, thoughtless, unknowledgeable and inconsiderate of many excellent physicians in Salem, Shawsville, Christiansburg, Blacksburg, Radford, Pulaski Wytheville, Marion, Abingdon and Bristol and other localities in the Southwest Virginia area, who are competent and capable of diagnosing and treating problems of the chest,

Be It Therefore Resolved, That: The Virginia Physicians Association wishes to express to the physicians of Southwestern Virginia its trust and confidence in the excellent care provided in diagnosing and treating chest, as well as other medical problems for the needy and also for the many patients who desire and are capable of paying for their treatment.

Be It Therefore Further Resolved, That: A copy of this resolution be forwarded to the Southwestern Virginia Medical Society, The Medical Society of Virginia, the Virginia Medical Monthly and to Dr. Mack I. Shanholtz.

Virginia Physicians Association

Osteogenic Sarcoma

End Results in Treatment in the Richmond Area

ALEXANDER KALENAK, M.D.
Richmond, Virginia

The treatment of osteogenic sarcoma must be swift and aggressive. The merits of the various methods are discussed.

IN THE REALM OF SURGICAL ONCOLOGY, the treatment of osteogenic sarcoma remains in controversy.

This paper is presented in order to study the methods and results of treatment of osteogenic sarcoma in the Richmond Area and to compare the findings with other studies, and determine if any significant differences exist in our results.

The case material was obtained through the medical records department of each hospital in the Richmond Area. Forty-four cases were reviewed. Twelve were discarded either because the pathology slides showed a diagnosis other than osteogenic sarcoma or the diagnosis was made on the basis of clinical and x-ray findings, without a surgical pathology specimen. Each chart was then reviewed and the pathology slides examined.

To qualify for the series, the proliferating cells of the neoplasm must have produced osteoid substance, even though a predominance of chondroid or fibromatoid differentiation may have been present. Included in the series is one case of osteogenic sarcoma arising from Paget's disease and two cases of parosteal osteogenic sarcoma, which characteristically grows slowly, and metastasizes late, if at all. There were no cases of post-irradiation osteogenic sarcoma or extra-skeletal osteogenic sarcoma.

Incidence

Thirty-two cases of osteogenic sarcoma were found, the earliest recorded in 1947.

Sex

The cases were equally divided, sixteen males and sixteen females. Other series show a male predominance from 62-66%.

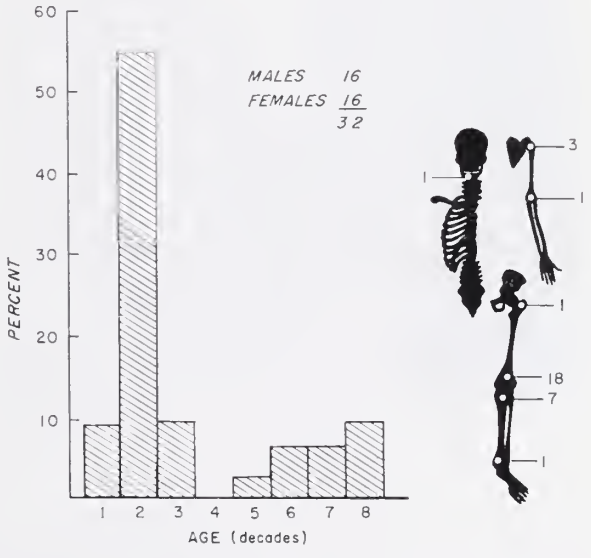


Fig. 1-A. Skeletal, age and sex distribution of thirty-two cases of osteogenic sarcoma.

Age

The youngest of the thirty-two patients was seven years, and the oldest seventy-four years. The peak incidence was in the second decade, similar to the report of Dahlin and Coventry.

Localization

The metaphysis of the long bones is the site of predilection, and the region of the knee accounted for 78% of the total number of osteogenic sarcomas in the series. None were distal to the ankle or elbow. Dahlin and Coventry reported over 50% in the region of the knee. (Fig. 1-A)

Symptoms

Pain and swelling were the cardinal symptoms. Either one or both were present in



Fig. 1-B. Roentgenograph of right humerus showing lysis of the proximal one-third of the humerus. Apparent bone formation is present beyond the cortical border.

every case in the series. Two cases, however, presented as a pathological fracture.

The duration of symptoms prior to definitive therapy varied from less than one week to just over one year. 56% of the cases had symptoms from one month to four months duration.

Physical Findings

A mass or a swelling was present in all the cases, accompanied by some degree of pain in almost all. The presence of heat or dilated

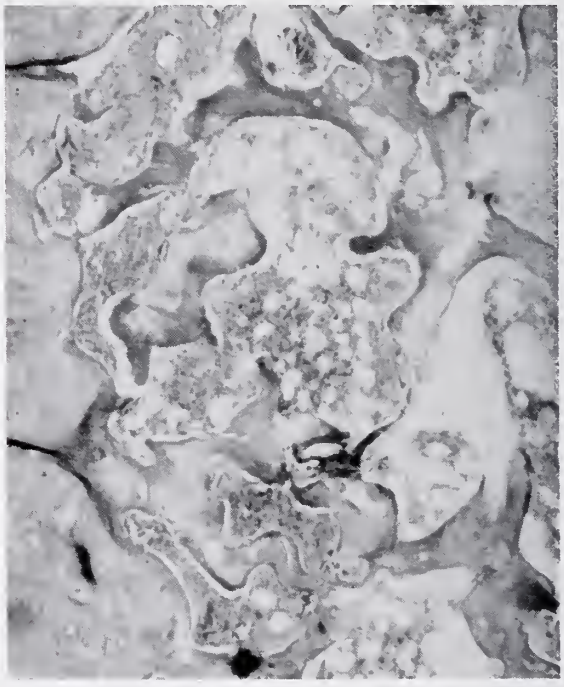


Fig. 1-C. Photomicrograph of a section of the tumor of the humerus showing neoplastic osteoid. (x100)



Fig. 2-A. Roentgenograph of the chest showing opacification of the lower two-thirds of the right hemi-thorax.

veins was only sporadically noted in the charts.

Histopathology

Lichtenstein has stated the essential criteria as:

(1) The presence of a frankly sarcomatous stroma and

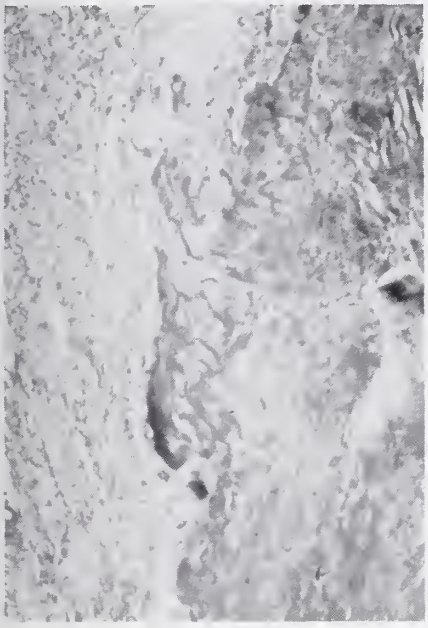


Fig. 2-B. Photomicrograph of a section of necrotic metastatic tumor in the lung. Tumor osteoid is present in the central area. (x25)

The following are a few illustrative case histories:

Case one is that of a forty-seven year old white female who presented with a ten day history of pain in the right shoulder. A biopsy was done confirming the diagnosis of osteogenic sarcoma (chondroid type). She received radiation therapy followed with an interscapulothoracic amputation. She was free of metastasis fourteen years later. (Fig. 1-B and 1-C)

Case two is that of a twenty-eight year old Negro male who had a tumor excised from the distal femur in 1947. This was followed with a mid-thigh amputation in 1952, a hip disarticulation in 1961, and a right pneumonectomy in 1963 for metastasis. He died in 1964. (Figs. 2-A and 2-B)

Case three is that of a seventeen year old Negro male who had a mid-thigh amputation in 1952 for an osteogenic sarcoma of the tibia. He died in 1955 of pulmonary metastasis. (Figs. 3-A and 3-B)

Case four is that of a fifty-seven year old white female with a parosteal osteogenic sarcoma who presented with a lump in the tibia

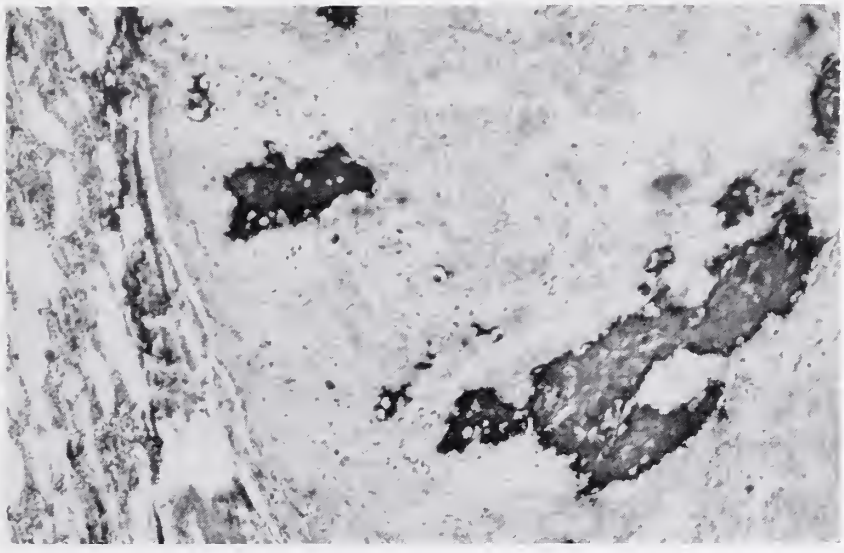


Fig. 3-A. Photomicrograph of a section of metastatic tumor in the lung. Tumor osteoid is adjacent to the alveoli. (x25)

(2) The direct formation of tumor osteoid and bone by this malignant connective tissue.

of fifteen months duration. It was excised in 1960 and followed by a mid-thigh amputation in 1961 for a local recurrence. In

1968 a lobectomy was done for pulmonary metastasis. (Figs. 4-A and 4-B).

Case five is a fifty-four year old Negro female who had a swelling in the distal

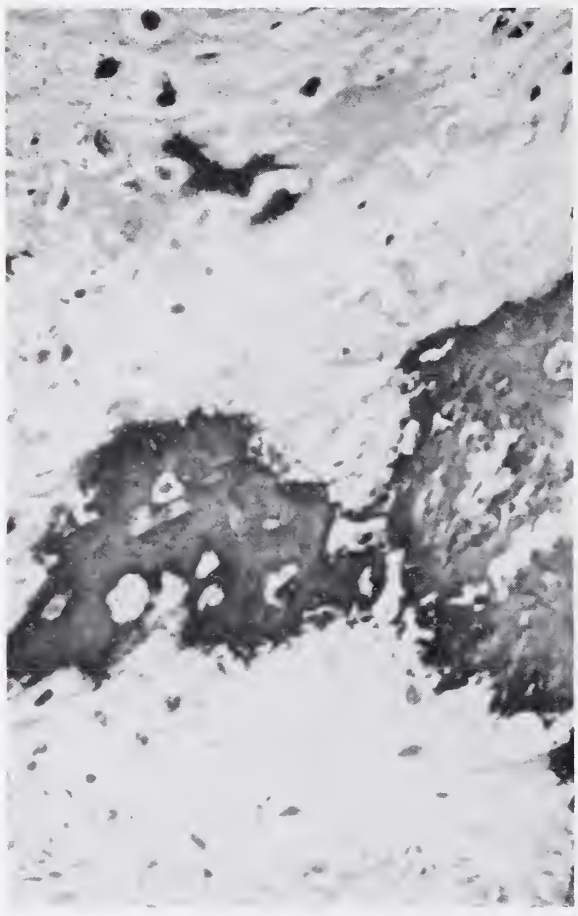


Fig. 3-B. Photomicrograph of metastatic tumor showing pleomorphic stromal cells and tumor osteoid. (x 160)



Fig. 4-B. Photomicrograph of the same parosteal osteogenic sarcoma showing the irregular trabeculae. The stromal cells are spindle-shaped and rather loosely arranged. (x160)

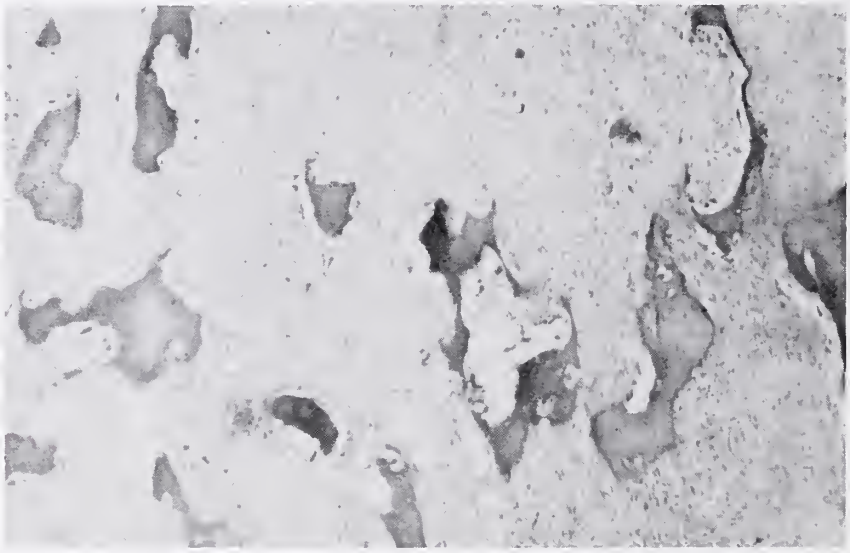


Fig. 4-A. Photomicrograph of a section of a parosteal osteogenic sarcoma of the tibia showing irregular trabeculae with a moderately cellular stroma. (x25)

femur of two to three months duration. A biopsy and hip disarticulation were performed in 1958. She has remained free of metastasis. (Fig. 5)

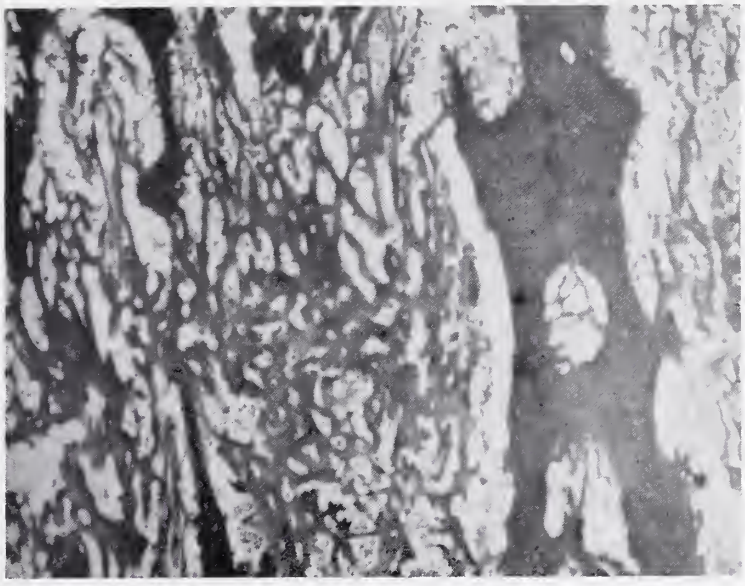


Fig. 5. Photomicrograph of a section of a sclerosing type of osteogenic sarcoma of the femur. A complicated lattice network of a typical bone is present. The stromal cells are scattered between the trabeculae, and are absent in some area. (x100)

Osteogenic Sarcoma in Paget's Disease

One case in the series was a complication of Paget's Disease in the proximal humerus. Dahlin reported an incidence rate of 3.1% and stated that the humerus seemed to have a predilection for sarcomatous degeneration of Paget's Disease.

	Total No.	*Survivors*	*Non-Survivors*	*Lost to Follow-Up*
Biopsy and Amputation	15	4	10	1
Biopsy, Radiation and Amputation	12	4	6	2
Biopsy and Radiation	3	..	1	2
Excisional Biopsy	1	..	..	1
Radical Resection	1	1	..	..
Total	32	9	17	6

Treatment

The following table represents the methods of treatment and the number of survivors, non-survivors, and those lost to follow-up.

The dosage of radiation varied from 3300 rad to 7000 rad in the survivor group, and from 1600 to 10,000 rad in the remainder.

Length of Survival

The following table represents the twenty-six patients *not* lost to follow-up.

Mode of Treatment	*No. of Survivors*	*Years Survived*	*No. of Non-Survivors*	*Years Survived*
Biopsy and Amputation	1	10	1	17
	1	7	1	3
	1	2	2	2
	1	½	6	1
Total	4		10	
Biopsy, Radiation and Amputation	1	4	3	2
	1	3	1	1
	1	2½	2	1
	1	1½	.	.
Total	4		6	
Biopsy and Radiation	0	0	1	1
Radical Resection	1	13	0	0
Grand Total	9		17	

The two cases of parosteal osteogenic sarcoma are among the survivors in the biopsy and amputation group but are not included in computing the survival rate.

There were three patients, of twenty-

four, that survived ten years or more (seventeen years, thirteen years, and ten years). There were none in the five to ten year interval at the time of the study. The patient surviving thirteen years is a case of osteogenic sarcoma of the mandible. The distal femur was the site involved in the other two survivors.

	Kalenak	*Jaffe*	*Dahlin*	*Cade, Lee and MacKenzie*
Five-Year Survival Rate	12.5%	5%	20.3%	22.9%
Ten-Year Survival Rate	12.5%	..	17.3%	..

Discussion

The duration of symptoms and the interval between discovery and definitive therapy were studied and showed no relationship to success or failure of treatment.

However, since the seeding of metastasis obviously must occur at some specific time in the evolution of a given sarcoma, some patients will pay with their lives when treatment is delayed unnecessarily. Sherman and Irani believe that some biological phenomenon, such as cell cohesion or host-tumor resistance plays a role in long term survival. Pruitt and associates, as well as Moore and associates, have reported that, even without manipulation, neoplastic cells are showered into the blood stream at frequent intervals.

Cade, in 1955, in a series of 133 cases of osteogenic sarcoma, reported a 7.5% five-year survival rate. Lee and MacKenzie, in 1964, in a series of ninety-two cases, reported a 21.8% five-year survival rate. Cade, in 1967, reported a rate of 22.9%. The mode of treatment in both series was radiotherapy followed by amputation in four to six months, in patients without metastasis. This method was used *exclusively*. The tumor dose was 6,000-7,000 r, at a rate of 1,000 r per week.

In order to decrease the delay between diagnosis and therapy, Coventry and Dahlin have used the double-tourniquet and frozen section specimens in accessible sites and reported a 20.3% five-year over all survival rate. This method was not used exclusively however. Their series is a retrospective study extending from 1909-1964. Out of 409 patients treated before 1960, 127 had osteogenic sarcoma in sites difficult to treat, such as the upper femur or humerus, clavicle, ribs, etc. They reported a 25.4% five-year survival rate for tumors *distal* to the upper humerus and femur.

Numerous other studies report five-year survival rate of 5% (Hatcher), 7.5% (Cade, 1955), 11% (Coley), 12.7% (Brody), 13% (Price), 17% (Lansche), 19% (Lindbom). The treatment was variable in most of the studies.

Dahlin states that nearly all osteogenic sarcomas contain small or large foci of tumor osteoid that require no decalcification prior to sectioning and that these foci routinely have the best cytologic details for diagnosis. Permanent sections should be ready in twenty-four hours for those averse to frozen section diagnosis. Lee and MacKenzie obtained biopsy specimens either by open operation or biopsy drill. 28% required a second biopsy because of unsatisfactory material.

O'Hara recently reported on thirty long-term survivors (over ten years) and could not identify any specific features which would separate their patients from non-survivors of osteogenic sarcoma. The one common feature found was that amputation was the only effective therapeutic method in eradicating the primary disease, with or without pre-operative radiotherapy. Use of the double-tourniquet technique was not commented on.

Conclusion

In comparison with other series, no significant differences could be found in sex, age, or skeletal distribution, symptoms or physical findings.

In comparing biopsy and amputation vs.

biopsy, radiation and amputation, twelve patients were treated with biopsy and amputation, ten with biopsy, radiation, and amputation. The patients with the longest survival time were in the biopsy and amputation group (ten and seventeen years).

Two patients are still living in the biopsy and amputation group (ten and one-half years). Four patients are still living in the biopsy, radiation, and amputation group (four, three, two and one-half, and one-half years), but the last two have known pulmonary metastasis. It is difficult to conclude which method is superior in this obviously small series. No attempt is made to infer statistical significance.

Since approximately 50% of the tumors affect the lower portion of the femur and upper part of the tibia, treatment at these sites merits special attention. Dahlin and Coventry report five-year survival rates for femoral (middle and distal) and below-knee tumors as 19% and 35% respectively. Lee and MacKenzie report five-year survival rates for femoral and tibial tumors at 30% and 16% respectively. One would expect a more compatible correlation in view of the comparable over-all survival rates. Speculation on causes for the discrepancy must include histopathological interpretation, stage of the disease encountered, and method of treatment. It is the opinion of the author that until there is conclusive evidence that immunological factors play a role in the seeding of metastasis, radiotherapy should *not* be used as a form of therapy in a site where amputation is possible, since it merely delays removal of the primary site. There is no question that radiation therapy is necessary in sites where amputation is not feasible. But in an extremity, principles in the treatment of malignant tumors would seem to indicate that amputation is the proper treatment. Sherman has pointed out that there should be no question about the value of ridding the patient of a lesion which may be painful, incapacitating, and even offensive.

It seems that the principle objection to the double-tourniquet technique is a reluctance on the part of the orthopedist to rely on a frozen section specimen for a definitive diagnosis. Proof of its effectiveness should be thoughtfully considered. It is the solemn obligation of a physician to offer the best possible treatment to his patient and, therefore, orthopedic surgeons should contemplate using the double-tourniquet technique in treating future cases of osteogenic sarcoma in an extremity. Regardless of the method of treatment chosen, treatment should be swift and aggressive. All physicians, especially general practitioners and pediatricians, should retain a high index of suspicion of bone tumor when confronted with a patient in the second decade of life possessing symptoms and physical findings not readily attributable to trauma or other obvious diagnoses.

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Trichomoniasis, Sterility and Abortion

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Trichomonas vaginalis infection may play a part in sterility of humans.

SINCE 1932, Trichomonas infection has been identified as a cause of sterility and abortion in bovine cattle, Trichomonas foetus being the main responsible species for the infection. Although the mechanism of these conditions is not explained, B. Brodic[1] could decrease the number of abortions and sterility in bulls by treating the infected animals.

We have then conceived the idea that humans might suffer, in similar fashion, with Trichomonas vaginalis infection and our purpose in this work was to find out if there was any correlation between abortion and/or sterility and trichomoniasis. Parallel with these observations, we also ran an experiment with white mice which were vaginally infected with cultures of Trichomonas vaginalis, in order to verify if there was any pathogenicity in this flagellate.

It is a quite well known fact that the presence of this parasite causes cervicitis in human beings. In chronic infections, papillitis, focal hemorrhages, erosion of the superficial layers of both epithelia may occur.[4] Severe cell changes, such as severe dyskaryosis and severe endocervicitis are also frequently observed in cytological preparations.[3]

Material and Methods

Ninety-seven young women, who had been submitted to endometrial curettage, were divided into three groups, as follows:

Group I—55 women who were pregnant and miscarried.

Group II—13 non-pregnant women who were submitted to curettage due to abnormal bleeding of different causes.

Group III—29 women, pregnant or not, who had endometrial curettage because of uterine hemorrhage and whose pathological diagnosis was either acute or no endometritis.

Vaginal smears from one year prior to the admission of all patients were reviewed and histological studies were performed.

Our parallel experiments with mice were done as follows:

Group A—Eight young white Rockfeller female mice (RFM 12) were infected intravaginally with 0.25 cc of a live Trichomonas vaginalis culture every other day, for ten days. Pap smears were obtained every alternate day, until they showed unquestionable signs of trichomonas infection. After the infection was established, they were then bred for five days with normal young males of the same strand.

Group B—Eight young female white mice of the same kind as Group A were bred for five days and then infected with culture of Trichomonas vaginalis, in the same manner as Group A. Vaginal smears were also obtained until they showed the infection.

The fresh cultures of Trichomonas vaginalis were collected from the same human patient and grown under identical condi-

tions for one month, at 37° C in a medium of

Trypticase (BBL)	2.0 g
Yeast extract	1.0 g
Maltose	0.5 g
L. cysteine HCL	0.1 g
L. ascorbic acid	0.02 g
Distilled water q.s.	90 ml

Results

Thirty-eight (or 69.1%) of the 55 patients from *Group I* had Trichomonas vaginalis in their smears, against 17 (or 30.9%) who did not have the infection. All the 38 women with the infection showed chronic endometritis in their histological sections, with variable degree of severity. However, none of them showed slight endometritis. The other 17 women did also show endometritis.

In *Group II*, nine out of 13 non-pregnant patients (or 69.3%) with trichomonas had chronic endometritis. Four patients (or 30.7%) had chronic endometritis, without trichomonas infection.

In *Group III*, we found 12 patients (or 41.4%) with acute endometritis and no trichomonas infection; eight were pregnant. 17 patients (or 58.6%) had trichomonas infection, without endometritis; 10 of them were pregnant. (Table 1)

As to the mice experiments, we had the following results:

Group A—Only two (25%) mice produced offspring in this group. One mouse had six normal babies. She was sacrificed and her uterus, cervix, ovary and Fallopian tubes were histologically normal.

TABLE 1

Relationship Between Trichomonas Infection and Endometritis in Pregnant and Non-Pregnant Women

Groups Studied	Number of Women	Trichomonas + Endometritis		Trichomonas Without Endometritis		Endometritis Without Trichomonas	
		Pregnant	Non-Pregnant	Pregnant	Non-Pregnant	Pregnant	Non-Pregnant
Group I	55	38/69.1%	17/30.9%	—	—	—	—
Group II	13	—	9/69.3%	—	—	—	4/30.7%
Group III	29	—	—	10/34.5%	7/24.1%	8/27.6%	4/13.8%

The second mouse gave birth to only one baby. She was also sacrificed and her pathological diagnosis was cervicitis, with squamous metaplasia and severe endocervicitis. Hemosiderin was found in the endometrium. Mild endometriosis and mild inflammation in the Fallopian tubes were observed.

The other females of this group failed to

TABLE 2

Pregnancy in Mice Infected With Trichomonas Vaginalis

Groups Studied	Number of Infected Mice	Before Breeding		After Breeding	
		Pregnant	Non-Pregnant	Pregnant	Non-Pregnant
Group A	8	2/25%	6/75%	—	—
Group B	8	—	—	4/50%	4/50%

get pregnant, although breeding normally. Two of them were sacrificed. Their pathological reports showed chronic endometritis and chronic salpingitis. One of them had marked squamous metaplasia in the lower part of the uterus and the other one had mild anaplasia of cervix, with koilocytotic atypia.

Group B—Four animals (or 50%) had offspring. One mouse gave birth to six babies and suffered from labored respiration and fever, soon after delivery. At one month of age, these babies were about half the size of a two week old baby and all of them died shortly after one month. A cross section of one of the babies showed sinusitis and pneumonia. The mother was sacrificed and the pathological diagnosis was mild endometritis and anaplasia (mild) of the cervix.

Another mouse gave birth to five dead babies. She was sacrificed and the pathological report showed hyperkeratosis of the cervix, endometritis and mild inflammation of the right Fallopian tube.

A third mouse delivered two babies. She had mild endometritis at the pathological report and the cross section of her babies were normal.

Finally, a fourth mouse gave birth to eight babies. However, they were too small for their age at two weeks. After five weeks, the mother and two babies were sacrificed. The mother's pathological report was squamous metaplasia, endometritis and chronic inflammation in both the left and right tubes. The cross section of the two babies was normal.

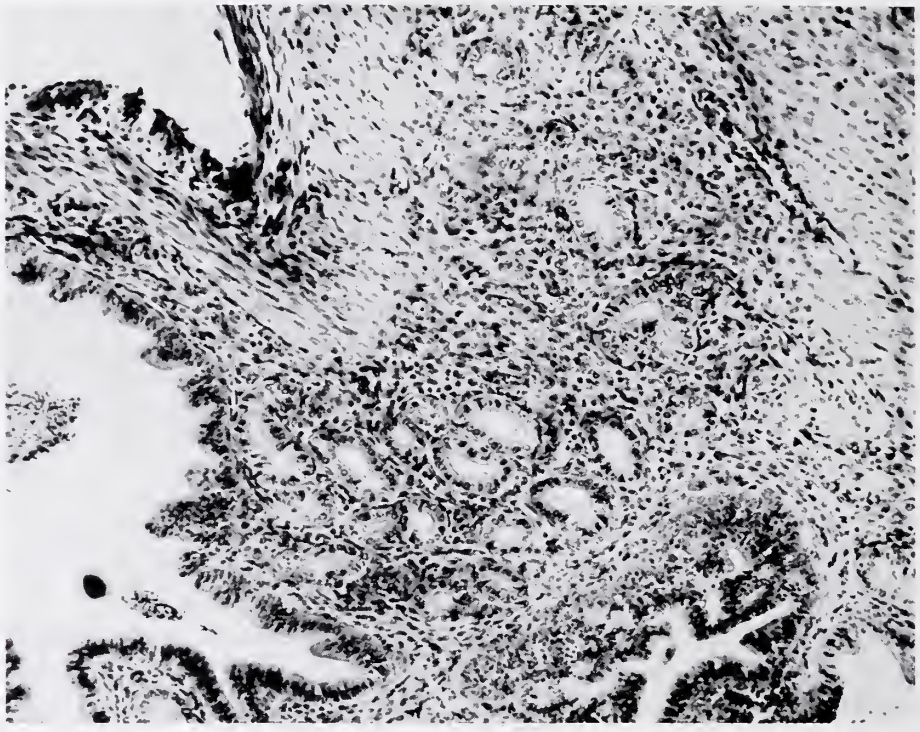


Fig. 1. Histological section of a mouse from Group A, showing chronic endometritis.

Conclusion and Discussion

It seems to us that chronic endometritis should be considered as a major factor in miscarriages, as shown in Group I and that trichomonas infection is a frequent cause of endometritis. Our findings in Group II confirm the latter affirmation. Group III, however, showed a small discrepancy, most probably because the trichomonas infection in those cases was still in an acute stage which had not reached the endometrial cavity as yet.

It is also our conclusion that, at least in mice, endometritis is a strong factor in ster-

ility because only 25% of the animals previously infected with trichomonas became pregnant, one of them with a very small offspring.

A remarkable finding in Group B was the marked influence that trichomonas infection exerted on previously normal pregnancy and on the babies delivered from it.

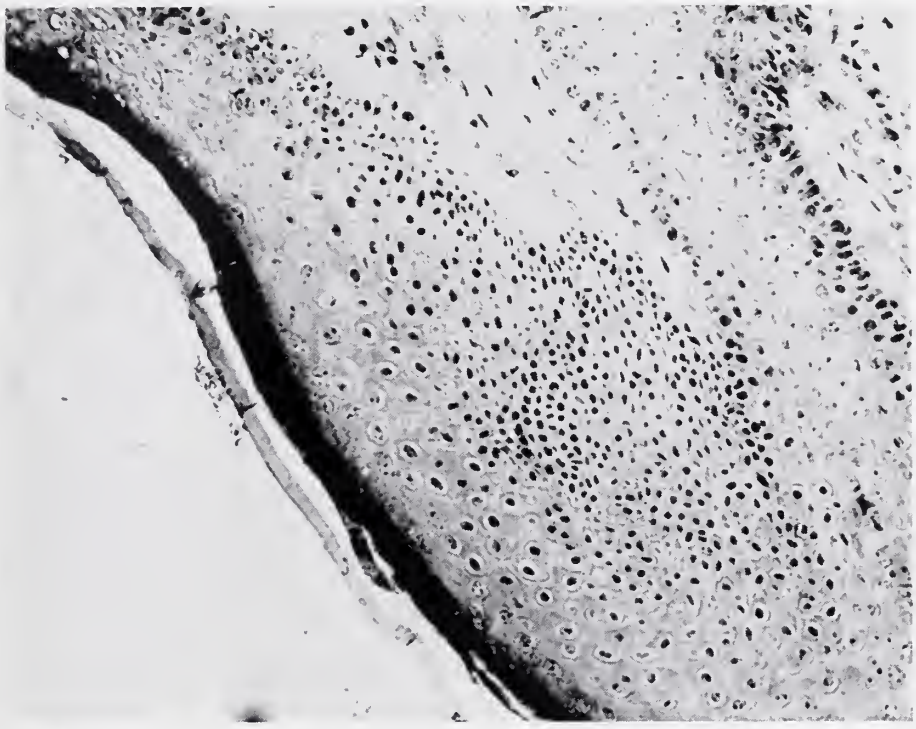


Fig. 2. Histological section from the cervix of a mouse from group A showing mild anaplasia and numerous koilocytotic atypia.

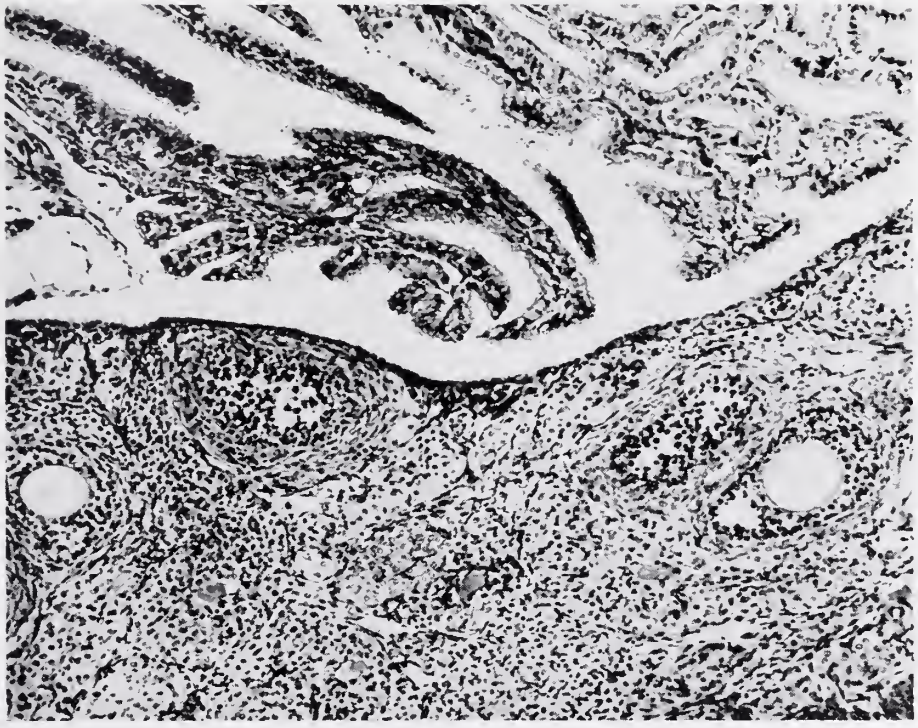


Fig. 3. Histological section showing fallopian tube (upper part) and ovary (lower part). The chronic inflammation of the fallopian tube is propagating to the ovary.

Poorly developed babies were observed in their majority (14 out of 21, or 66.7%) and five babies were stillborn (23.8%).

As it is known, Trichomonas vaginalis attacks the squamous epithelium and has a very special tropism for intermediate cells which have cytoplasm rich in carbohydrates, especially glycogen. As endometrial cells are also rich is glycogen, we feel that the parasite could be found in the endometrial canal, in its search for food, mainly the secretory phase of the menstrual cycle, thus disturbing the nidation of the eggs or disturbing their development when nidation occurs.

It also seems to us that inflammation of the fallopian tubes interferes, mechanically, with the normal travelling of the eggs, making their journey more difficult or practically impossible. This could be seen in Group A, where mice with chronic salpingitis didn't conceive. Two mice from this group had mild salpingitis. One of them had one baby and the other six.

This type of inflammation did not disturb the ovarian function and it is our idea that the sterility in the observed mice was merely due to mechanical obstruction.

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Reflectorized Materials for Children

The American Academy of Pediatrics has strongly recommended that retro-reflective materials such as reflectorized tags attached to a child's coat zipper be worn by children at night. This, the Academy emphasizes, will help to significantly reduce the more than 1,000 childhood deaths attributed each year to poor visibility during evening hours.

In a statement appearing in the July 1 AAP Newsletter, the Academy Committee on Accident Prevention encourages the development of various commercial reflectorized material to make pedestrians readily visible to drivers at night. Retro-reflectorized materials can either be affixed to clothing or incorporated in the design of a garment.

The Academy further recommends that more information concerning traffic safety be given to pediatric patients.

Giant Synovial Dissecting Cyst

An Uncommon Feature of Rheumatoid Arthritis

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A case of a giant cyst dissecting into the calf in a patient with Rheumatoid Arthritis (RA) is reported. The clinical manifestations are discussed and the importance of differentiating a dissecting cyst from thrombophlebitis is stressed.

IN RECENT YEARS the occurrence of giant synovial cysts of the calf in patients with RA has been noted.[8,9,11] We have recently detected and demonstrated such a cyst. Because of the therapeutic importance in differentiating between thrombophlebitis and a dissecting cyst and because of the apparent lack of widespread medical knowledge of the entity, our case is hereby reported.

Case Report

The patient, M. McC., a 50 year old housewife, had the onset of arthritis in the spring of 1967 with soreness in both shoulders which regressed on oral steroid therapy. In December, 1967, swelling of several fingers was noted with later progression involving neck, elbows, shoulders, knees and ankles. During the spring and summer steroids, phenylbutazone and indomethacin were given with only partial relief. Steroids and indomethacin were stopped two weeks before admission and were promptly followed by swelling of ankles and knees. One week before admission she noted swelling and tenderness of the right calf. On August 30, 1968, she was referred to the University of Virginia Hospital for further evaluation.

The patient was an obese, middle-aged white housewife. Examination of her musculoskeletal system revealed moderately severe muscle atrophy, greater in the upper extremities. There was synovial proliferation, tenderness, warmth, and decreased range of motion in the PIP joints, right wrist, both elbows, and both knees. The right knee was tense with fluid. The right calf was tense, tender, moderately warm, and approximately 2 cm. larger than the left. Homan's sign was positive in the right leg. There was no evidence of venous insufficiency. Pressure over the patella led to "pressure-pain" in the area of the mass.

A urinalysis was normal, the hematocrit was 36%, and the WBC was 10,100 with a normal differential. Other laboratory studies revealed a rheumatoid factor (latex) titer positive at a 1:320 dilution, a 1+ fluorescent ANF, and an ESR (Westergren) of 106 mm./hr.

An arthrogram was performed on the right knee using 10 ml. of Renografin 60. This study confirmed the presence of a large, dissecting right calf cyst communicating with the knee joint. (Fig. 1) Symptomatic response of the joints to salicylates was not satisfactory partly due to gastrointestinal

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intolerance. Therefore, gold therapy was begun with gold thiomalate intramuscularly.

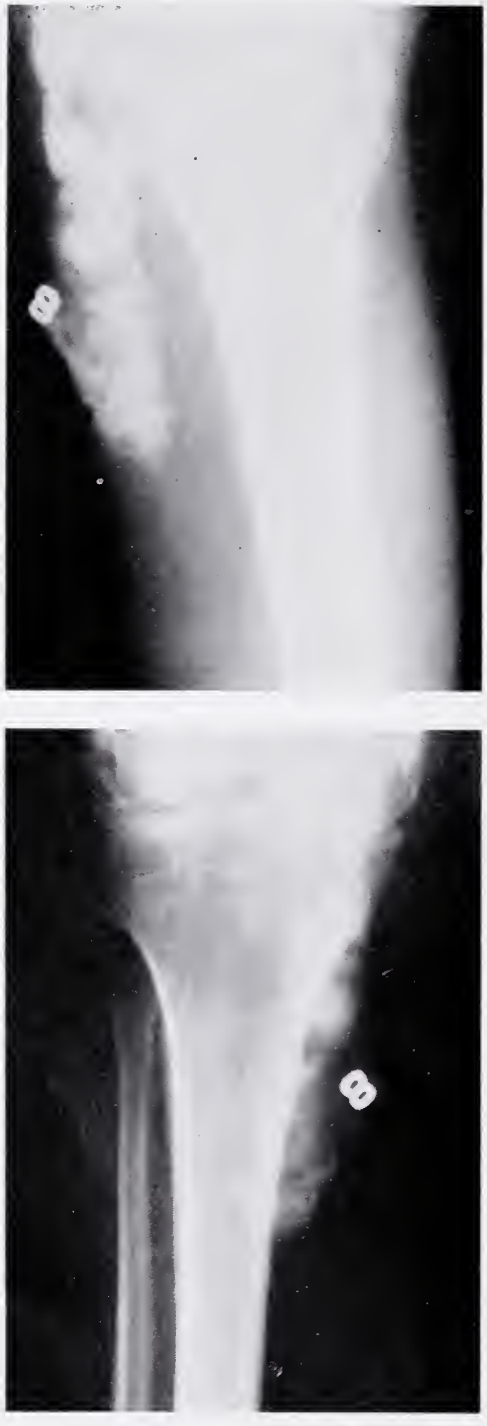


Fig. 1. Arthrograms of the right knee. Note the rather narrow neck leading from the medial aspect of the popliteal space as well as the convoluted border of the cyst. The cyst measures approximately 14 x 3.5 cms.

The day prior to discharge 75 mgm. of prednisolone acetate (3 cc. of Meticortelone Schering) was injected into the right knee-joint space. Unfortunately, no fluid could be aspirated for culture. Therapy was to be continued with enteric coated aspirin and weekly gold injections.

Six weeks after discharge the patient returned for follow-up evaluation. The right knee was asymptomatic and showed a full range of motion. There was no calf tenderness, Homan's sign was negative, and both calves measured 31.5 cms.

Discussion

Popliteal (Baker's) cysts have been well known for many years. They are by definition fluid filled cysts located in the popliteal fossa. They arise from an enlarged popliteal bursa, usually the gastrocnemio-semimembranous bursa. About 50% of the time, they communicate with the knee-joint space.[4,10,13] When they occur in children, intra-articular disease is almost never present, but in adults the opposite is true.[2] A wide variety of joint disease may be present, most commonly degenerative joint disease. Ordinarily, the cysts do not cause much discomfort but merely present as a mass in the popliteal space.

Giant dissecting cysts, in contradistinction to their smaller popliteal cousins, have all occurred in patients with RA. Perri, Rodnan, and Mankin have recently added six cases to the 23 cases previously reported and reviewed the literature on the subject.[11] The average age of the patients was 52.5 years. Surprisingly, 62% of the cases have been men as compared to the high incidence of RA in women. Usually the symptoms of swelling, tenderness and progressive enlargement of the calf are of gradual onset, but in five of 29 cases the complaints were acute. There is always enlargement of the calf and usually tenderness on palpation. Laboratory data consistently indicate "activity" of the rheumatoid disease with positive rheumatoid factor and an elevated erythrocyte sedimentation rate. These cysts probably

arise from distention of the gastrocnemio-semimembranous bursa in face of chronically elevated knee-joint pressures. Histologically, the walls of the cysts show typical changes of RA. The cysts may be very large and extend to the distal lower leg. Recently, Hall and Healey documented the instance of an infection of a large dissecting cyst as a complication of septic arthritis.[6] Acute rupture of a popliteal cyst or of the knee joint space into the calf with resultant inflammatory change may be confused with either dissecting cyst or thrombophlebitis.[5,3,7,12]

The diagnosis is confirmed by performing an arthrogram with injection of contrast media directly into the knee joint.[4] Some physicians have instilled radio-opaque material directly into the cyst.[1]

Hench et al. treated five patients by instilling corticosteroids into the knee joint and reported good results.[9] In one of the five cases the symptoms recurred but a repeat injection again obtained relief. Other authors have seen fit to surgically remove the cyst both with and without synovectomy. Out of 20 cysts surgically excised only two have recurred.[11]

When a patient with knee involvement in RA develops the signs and symptoms of thrombophlebitis, the diagnosis of a dissecting cyst or rupture of a popliteal cyst should be strongly considered. Accurate diagnosis in this instance has more than academic interest. Thrombophlebitis often calls for acute and long term anticoagulation with its inherent dangers and hospitalization. On the other hand when a diagnosis of dissecting cyst has been made, therapy is directed towards the arthritis in general and the cyst in particular.

We suggest that the initial therapy consist of intra-articular steroid injection coupled with the local application of heat and modified bed rest. If relief is not obtained then surgical excision can be performed.

Summary

An additional case of a giant cyst dissecting into the calf in a patient with RA is presented. The etiology of these cysts is thought to be the progressive enlargement of the gastrocnemio-semimembranous bursa. The diagnosis is made by performing an arthrogram. Intra-articular injection of steroids is recommended as the initial course of therapy since encouraging results have been obtained elsewhere. Surgical excision can be performed if the medical regimen fails. The diagnosis of a dissecting cyst should be strongly entertained in any patient with RA who displays the clinical picture of thrombophlebitis.

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Chronic and Acute Diseases

At the present time the chances at birth of a male eventually dying from a chronic disease are 83 in 100 in the United States, compared with 52 in 100 at the turn of the century. This probability has remained virtually unchanged during the past twenty years. The corresponding chances of dying from an acute condition are 6 in 100, which is about a sixth of such likelihood in 1901.

The major medical and public health problems confronting the nation today are thus quite different from those seventy years ago. At the turn of the century the infectious diseases were the leading causes of death and their impact was heaviest at the younger ages. Mortality has declined rapidly as the infectious diseases were brought under control and the chronic diseases became increasingly the preponderant causes of death at the middle and older ages. The relative importance of deaths from the chronic diseases, the acute conditions, and external violent causes has been affected by the changing age composition of the population; an increasing proportion of the population has survived to the older ages, when the probability of dying from chronic disease is greatest.

Acute diseases accounted for 41 percent of all deaths in 1901, but by 1966 this proportion fell to 8 percent. Pneumonia and influenza, which together constituted 12 percent of all deaths and was the leading cause in the early years of the century, now ranks fifth with less than 3 percent of all deaths. Diarrhea and enteritis and the communicable diseases of childhood, which once took an enormous toll of child life, are now rarely listed as causes of death. Typhoid fever and poliomyelitis have also been reduced to a vanishing point. Currently, the chances of eventually dying of an acute disease are 6 in 100 for both males and females at birth.

The major cardiovascular-renal diseases (diseases of the heart, cerebral vascular diseases, chronic nephritis) and cancer make up the bulk of the mortality attributed to chronic diseases. Currently, chronic diseases are responsible for 83 percent of all deaths compared with 46 percent in 1901. The probability of dying from a chronic disease is 83 in 100 at birth for males and 88 in 100 for females.

At the youngest ages the experience among females was similar to that among males. Chronic diseases became the leading category of deaths among women at ages over 25. External violence in 1966 accounted for more than half of all deaths among women aged 15-24. Chronic diseases caused more than half of the deaths among females in the age range 25 to 34, and this proportion rose to about nine-tenths at ages over 55.

After a long period of decline, mortality rates in the United States leveled off in the mid-1950's; variations from year to year have been attributed largely to outbreaks of influenza in some years. Because of rising death rates from some of the chronic diseases and the aging of the population, it is possible for the general mortality level to turn upward. Only a major breakthrough in the prevention and treatment of cardiovascular-renal diseases or cancer could effect a significant reduction in overall mortality in the near future.

(Statistical Bulletin—Metropolitan Insurance Company—May 1969.)

"Chronic" Epidural Hematoma

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Chronic epidural hematoma may occur weeks following head trauma. The diagnosis depends on clinical evaluation of the patient, x-rays of the skull, arteriographic or ventriculographic contrast studies, and a high index of suspicion.

THE CLINICAL SYNDROME of acute and chronic subdural hematoma is readily recognized by most physicians.[1,2] The characteristic syndrome of acute epidural hematoma consisting of trauma, followed by brief or transient loss of consciousness, a lucid interval, and subsequent obtundation or coma of the patient in a few hours is well-documented in textbooks and medical literature.[3,4] "Chronic" or delayed epidural hematoma, however, has received scant attention in medical literature but nonetheless may represent a significant and serious entity deserving of further consideration. The following cases are reported to emphasize again the importance of recognition of this clinical and pathologic disorder.

Case Reports

Case #1: W.L., a 45 year old Negro male, was not seen in neurosurgical consultation until seven days after admission to a hospital. He had been found unconscious and believed to have been drinking. He was seen in consultation because of rapid deterioration of his condition with hemiparesis, fixed dilated pupil and periods of apnea. At operation a linear fracture was noted traversing the right temporal area and a temporal burr hole revealed a massive epidural hematoma of approximately 400-500 cc. over the right temporal and frontal regions. A temporal craniectomy was done and it was necessary to occlude the middle meningeal artery at the foramen spinosum to control bleeding after removal of the clot. Tracheostomy was performed. His condition remained critical for several days following which gradual recovery occurred.

Case #2: W.G., a 19 year old boy, was struck by a baseball in the right parietal area. He was rendered unconscious for several minutes, but had regained consciousness on admission to the hospital. He was confused and moderately drowsy the remainder of that day. There were no focal neurologic findings. X-rays of the skull were negative for fracture. The following morning he was alert, oriented and demanding solid foods. Neurologic examination was again normal. On the third day after admission he complained of only moderate headache, was eating well, and again no neurologic findings were noted. Late that afternoon he stated that he felt "fine". Approximately one hour later he was found to be unresponsive with a dilated right pupil. He was taken immediately to surgery where a massive extradural hematoma was evacuated over the right temporo-frontal area. Bleeding was found to have occurred from several torn branches of the middle meningeal artery. Convalescence and recovery were uneventful and he was discharged from the hospital three weeks following surgery.

Case #3: G.C., a 38 year old Negro male, was injured in a fall from a motor scooter at

work. Although he was reported by observers to have been briefly unconscious, he was violently combative and resistant to examination in the emergency room. However, approximately 30 minutes later it was possible to examine the patient adequately. It was noted that he would move all extremities to stimulation, the right pupil would occasionally be larger than the left but both reacted promptly to light. Blood was noted behind the left ear drum, the right drum being normal. Ophthalmoscopic examination revealed normal fundi and no hemorrhages were noted. There was blood in both nostrils. There was no evidence of injury other than the head injury. X-rays of the skull revealed a linear fracture of the right temporal area with fracture lines extending across the skull to the opposite frontal region and inferiorly into the base of the skull. The patient was admitted to the intensive care unit. Over a period of the next sixty hours the patient became gradually less responsive and his condition had deteriorated rather rapidly by the time he was taken to surgery. Left temporal craniectomy with removal of a massive extradural hematoma was done. No source of bleeding was found. A thin subdural hematoma, acute, of approximately 50 cc. was evacuated from the right temporal area through a burr hole opening. Tracheostomy was performed. His postoperative course was complicated by seizures involving the left face and arm which were readily controlled by intramuscular dilantin. Gradual recovery occurred over a period of the next several weeks and the patient was discharged from the hospital 37 days after surgery.

Discussion

Epidural hematoma was first described by Pott[5] in 1760 and a classical review of this disorder was published by Jacobson[6] in 1885. In 1950 Jackson and Speakman[7] reported a patient on whom they operated for chronic subdural hematoma 36 days after the initial trauma. Actually, operation was performed on this patient to exclude tumor because of the ventriculographic findings and with the thought of evacuating a suspected intracerebral hematoma. At operation a large encapsulated extradural hematoma was found in the anterior fossa extending to the mid-line superiorly and inferiorly, and to the lesser wing of the sphenoid posteriorly. These same authors point out that many cases of extradural must go unrecognized, and that dependent on size and location, some of these may subsequently organize and absorb, while others may become encapsulated and persist and result in later profound neurologic and psychologic deficit. Chronic epidural hematoma has been detailed in a rather classic paper by Clare and Bell[8] who detailed a 12 per cent incidence of chronic epidural hematoma in patients whose first symptoms developed 12 days or more following injury. Only one patient in their series presented with a posterior fossa hematoma, the remainder being supratentorial in location. Fracture of the skull is common and occurs in approximately 80 per cent of patients with extradural hematoma. Death may supervene even when the patient is under careful surgical observation if this condition is not suspected and appropriate surgical treatment instituted promptly. The mortality rate varies from an extreme low of 16 per cent to a median of 42 per cent.[9] The fact that a minor head injury with lucid interval occurs is no certainty that fatality may not ensue if careful observation of the patient is not insisted upon; as a matter of fact, these are the patients who are most likely to reflect elevated mortality statistics. The rather typical instance is that of a patient who had been found to be well after head trauma upon examination by a physician, sent home after minimal observation, and whose condition may subsequently deteriorate too rapidly for successful surgical intervention. Among the factors which must be considered in diagnosis of extradural hematoma is a history of head injury,

presence of a skull fracture on roentgenograms (especially temporal, but not necessarily in this region) and a high index of suspicion of possible future difficulty. Head injury without loss of consciousness does not exclude the possibility of development of extradural hematoma and it is of importance to recognize the fact that these hematomas may present in other than the usual temporal area. Some may occur as sub-frontal, frontal, parieto-occipital, basal, or rarely in the posterior fossa. The site of bleeding is from the middle meningeal artery in approximately 60 per cent of patients, occasionally from one of the venous sinuses, and in some instances no source of bleeding can be determined. Perhaps the most chronic case of extradural hematoma in the literature was reported by Grant[10] who described the presence of an anterior cranial fossa hematoma related to trauma six years prior to surgery. Mortality rates in most series would tend to indicate that the older the patient the poorer the prognosis. Postponement of surgical intervention and development of signs of brain stem dysfunction contribute significantly to an increased mortality rate. Among factors which should indicate to the physician the possible presence of an extradural hematoma after head injury must be considered alteration of state of consciousness, restlessness or bizarre behavior, pupillary inequality, presence of a skull fracture traversing middle meningeal groove, and weakness or paresis of extremities contralateral to skull fracture. Of importance in these patients is correction of respiratory difficulties by means of tracheostomy, respirators, and ventilation apparatus as well as correction of acid-base deficits. Osmolarity of extracellular fluids, pH of blood, bicarbonate ion concentration, carbon dioxide tension, potassium ion concentration, and blood urea levels should be ascertained. The adjunctive use of hypothemia and steroid therapy in these injuries has not been unequivocally determined. More recent studies would indicate that acute pulmonary edema may be a significant contributory factor to death in patients with increased intracranial pressure secondary to lesions of the central nervous system and that relief of the pulmonary edema is dependent mainly on reduction of intracranial pressure and that other measures are at most palliative and temporary.[11] The diagnosis of extradural hematoma must therefore depend on clinical evaluation of the patient, x-rays of the skull for possible fracture, arteriographic or ventriculographic contrast studies, a high index of suspicion, and early trephination or craniotomy if death of the patient is to be averted.[12]

Summary

1. Chronic epidural hematoma may occur days or weeks following head trauma, even when the head injury appears minor or insignificant.

2. Appropriate diagnostic studies, as well as frequent examinations of the clinical state of the patient, should be instituted without undue delay if extradural hematoma is suspected.

3. Surgical intervention should not be delayed since chronic, or delayed, extradural hematoma may prove rapidly fatal if unrecognized.

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Facts Regarding Employment and Licensure of Graduates of Foreign Medical Schools

A foreign medical graduate may be employed in an internship or residency in any hospital in the State of Virginia after he has completed an application form for such employment and received approval from the office of the State Board of Medical Examiners.

Such graduate can work a total of three years in hospitals in the State of Virginia and if, at the expiration of the three years, he is in an unfinished residency he may work on for a total of five years (six years, if employed in a state hospital). The graduate becomes eligible to take the state board examinations for licensure after he has had two years of postgraduate training in the United States or Canada. To be eligible he must also have ECFMG certification and must have entered this country on a regular immigration visa.

If the graduate holds a certificate from any other state basic science board or has passed the basic science examination given by any other state board he may have Part I of the Virginia Board examination waived. If a foreign graduate is licensed in the State of Virginia he cannot be licensed by reciprocity or endorsement except in a few of the other states. Each state has its own laws in this respect and these laws change so rapidly that one cannot keep up with them.

A graduate of a foreign medical school cannot be licensed in Virginia by endorsement. This is true regardless of the prominence that the individual may have attained in the field of medicine and the law does not allow the Board of Medical Examiners any discretionary authority in this regard. We shall try to have some changes made in this law in the next General Assembly.

There is no provision in our law for a foreign medical graduate to come to this country to one of our two medical schools for a short period of time and be given a temporary license to cover the work which he is to do. This definitely interferes with the exchange plan of graduates and our two medical schools should help us make changes in the code in the next General Assembly which will allow the board in some way to accommodate these foreign graduates.

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A Descriptive Study of a Psychiatric Ward in a General University Hospital

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Observations of 25 patients admitted to the in-patient service of a university hospital will help the referring physician understand what is done on the psychiatric ward.

A TREND toward hospitalizing patients with psychiatric illness in the psychiatric units of general hospitals rather than in the large state mental hospitals has developed in recent years. Indeed, the latest reports indicate for the first time that there are more psychiatric admissions to the former than there are to the later.

The authors wish to present some observations on the process of therapy in the psychiatric in-patient unit of a general university hospital, and to develop some conclusions which may be useful to physicians practicing in fields other than psychiatry by increasing their understanding of the aims and results of such treatment.

The patient who is admitted to a psychiatric ward in a general hospital is usually hospitalized for a relatively short period of time. A survey of a psychiatric ward at the University of Virginia Hospital in Charlottesville, revealed that the average patient's stay was 30 days. As a result of this short hospitalization, the program provided these patients is, by necessity, of a brief nature.

We know from clinical observations that most patients do improve as a result of this type of hospitalization; but because of the multiplicity and complexity of the treatment efforts, the influence of the protective hospital environment, and the patient's own complex psychological makeup, we usually can only speculate as to the reasons for this improvement.

To some patients, hospitalization may mean a greatly needed respite from a chronically distressing situation or from an acute and overwhelming distressful situation. Patients often find it comforting to know that they are not alone in being unable to cope with life. Psychiatric hospitalization may, however, produce antitherapeutic side effects. These undesirable effects are caused by the patient's isolation from the usual demands of society. This isolation fosters a passive-patient identity by encouraging the patient to accept his behavior and his illness with the expectation that an omnipotent staff of doctors and nurses will magically cure him.

Talbot and Miller[1] have described a hospital program designed to minimize such effects of hospitalization by creating a "sane society" in which the level of social demands is appropriate to the ego state of the patient-

The authors wish to thank Dr. Igor Magier for his help with this study.

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member of that society. At the same time, their program is designed to provide some sanctuary from the pressures and stresses with which the patient has been unable to cope successfully. In such a situation, patients are encouraged to share the administrative and work responsibilities with the staff; they are encouraged, individually and as a group, to actively collaborate with the staff in setting and enforcing standards of behavior.

Another function of psychiatric hospitalization is the treatment of psychotic patients. The features of the schizophrenic's world include a dissolution of the boundaries between his self and his environment, the disintegration of his representation of reality, the need of external control, the experience of being devoured by greedy objects, and the need for containment of a type that does not threaten to invade his remaining ego boundaries. Thus, the function of the hospital has been described as a control system utilized as a means for the patient to reorganize his ego. A conceptual model of a hospital as an aid to the everyday handling of psychotic patients has been described by Scott.[2]

In a teaching hospital not only must the therapy of the patient be considered, but also the learning process of the first-year resident, upon whom responsibility for psychiatric in-patients rests. The first-year psychiatric resident invariably feels anxious.[3] His difficulties are compounded by the influence and direction of the staff physician supervising his work. In this situation many residents have expressed feelings of being under pressure to follow the general orientation of their supervisor in approaching all their patients, whether that orientation be psychoanalytic, behavioristic, etc. This situation, however, is not completely without merit in a teaching hospital.

Other problems arise from the lack of familiarity and understanding of the referring physician concerning psychiatric hospitalization in a general hospital. Because the degree of preparation of patients for admission varies from one physician to another, problems of patient adjustment to a psychiatric ward are often encountered. Another frequent problem is the referring physician's unrealistic expectation of the results of psychiatric hospitalization. The physician who refers a patient with a primarily physical illness for hospitalization does so with some knowledge of the prospective treatment and of the changes in the patient's condition which should occur by the time of discharge. Yet, because of the uncertain degree of understanding regarding the complexity of psychiatric problems, the majority of physicians are unable to make a similar and equally valuable appraisal of a mentally ill patient.

With the above considerations in mind, we have observed very closely a number of patients on a psychiatric ward from their admission date to their discharge date. Our aims were to be able to describe the therapeutic ward, to attempt to characterize these processes, and to prepare ourselves for the future testing of our observations. We hope that our observations will not only be helpful for us in naming and describing what we do on the psychiatric ward of a general hospital, but will also be informative to referring physicians.

The Method of Observation

The psychiatric in-patient service of the University of Virginia Hospital in Charlottesville is a 38 bed unit. It is divided into two wards.

The study which will be described took place in a ward which has 21 beds. At the time of the study, there were three first-year residents on this ward, each having not more than eight patients assigned to him at a given time. The ward was under the direction of a staff psychiatrist, with assistance from a third-year resident.

Twenty-five patients admitted to this ward were selected at random for interviews and observations. These selections

were made over a period of approximately eight months. Each patient was interviewed by an examiner who was not directly involved in his therapy. During these interviews certain data were obtained which included: age, marital status, religion, and occupation.

Information was also obtained regarding the circumstance of the patient's admission, including the referral source, the patient's understanding of the type of treatment he would receive, his understanding of the physical structure and appearance of the ward, and the probable length of stay and cost he might expect.

During the interview and in subsequent evaluations of the patient, an effort was made to diagnose the focal problem or symptoms precipitating his admission to the psychiatric ward. Frank[4] using an adaptational approach to mental illness states,

> Mental illness, like physical illness, can be regarded as a failure of adaptation of the organism to its environment, produced by the interplay of specific vulnerabilities in the former and noxious stimuli in the later. In mental illnesses the major noxious agents are stressful interactions with other persons, past or present, rather than bacteria, poisons, or the like, and the chief manifestations are at the psychologic-symbolic level rather than the biologic one . . . .
>
> For purposes of psychotherapy, focal symptoms can be viewed as faulty ways of attempting to cope with both internal conflicts and inter-personal stresses. In general, at least in the neurotic spectrum, they are disguised or oblique attempts to gain a reassuring response of some sort from other persons as a means of allaying subjective distress.

Conflicts coming from the internal world, i.e., the patient's conflict in relation to some unacceptable wish, motive, or fantasy, and his mode of relationship to his environment, i.e., the loss of love objects, danger of death, etc., always interact. Most of the forces involved in these psychodynamics are unconscious. In the observations which will be reported, the patient's therapeutic processes on the ward were examined in relation to observed changes in the focal problem. By "focal problems" we mean the current psychic forces operating within the patient which help account for the symptoms and existing character problems, or for the disturbed interpersonal relationships with special emphasis on those symptoms which precipitated the patient's admission. Therefore, our understanding of the focal problem is very similar to Levine's[5] description of "Dynamic Diagnosis" of the patient's illness.

At the time of the patient's admission, an estimate was made of the severity of his illness and its effect on his ability to function at home or at work.

During each patient's hospitalization, his course was observed and the direction of his progress toward solving the focal problem was noted. This information was obtained from the resident physician, the supervisory staff member, the nurses, and the patient's chart.

After discharge, the patient's hospital course was reviewed and a determination was made of the general type of therapy the patient received, the possible changes in the focal problem, and the severity of the illness at the time of discharge, and the final disposition.

Observations

I. *Observations at the Time of Admission*

Of the group of 25 patients observed, 14 were male and 11 were female. The ages ranged from 16 years to 60 years.

In surveying the sources of referrals, three were self-referred, eight referred by psychiatrists, six referred by their personal physicians, and eight were referred by other sources (family, court, etc.).

As one might expect, the diagnoses varied widely with depressive reaction being the most common, accounting for nine admissions. Other diagnoses included anxiety re-

action, adolescent adjustment reaction, chronic brain syndrome, paranoid state, schizophrenias and personality disorders, including passive-aggressive personality, sexual deviation, alcoholism, and drug addiction.

At the time of admission, only five of the 25 patients were considered well prepared for hospitalization on a psychiatric ward. Six patients were considered to have had some preparation, and the remaining 14 patients were considered unprepared.

One observation was that the only "really" prepared patient was the one who had had a previous admission to the psychiatric unit. Many of those patients who came unprepared exhibited resistance to this type of hospitalization and treatment. A considerable amount of the therapist's time, therefore, was required in dealing with the patient's anxiety resulting fom his ideas and fears about mental illness and psychiatric hospitalization. For example, one patient on admission expected to be locked in his room and had rather bizarre ideas about the treatment he was to receive. This patient was not psychotic, but his lack of preparation before admission resulted in misconceptions of mental hospitalization. Some patients expected to be hospitalized for only a few days and were upset when they were told that they would probably stay several weeks. These ideas, we felt, could have been corrected to a great extent by the referring physician. Until these problems and the associated anxieties were dealt with, the basic illness could not be approached.

After determination was made as to the patient's understanding of the reason for his admission, each patient could be placed in one of three categories:

A. *Voluntary-motivated:* The patient was admitted voluntarily and considered motivated and interested in obtaining therapy. Eleven of the group of twenty-five patients observed were in this category.

Case Example: Jim, a 27 year-old single white male with a passive-dependent personality was admitted to this hospital approximately seven years ago, and it was assumed that he had a good experience while in the hospital. Since that time he had continuously saved his money for a readmission in case he should feel severe anxiety again. The patient, who had a history of chronic anxiety, became acutely and severely anxious after having been discharged from his last job. As a result of his anxiety, he appeared at the psychiatric clinic "demanding" admission to the hospital and stating that he had money to pay for such hospitalization.

B. *Voluntary-not motivated:* The patient was admitted only at the encouragement of friends or relatives, or the family physician and was not sincerely motivated or interested. Six of the 25 patients fell in this group.

Case Example: A 40 year-old married male patient had a history of drug addiction. The severity of his symptoms increased after he lost his mother two years prior to his admission. When the addiction problem became acute, he voluntarily accepted hospitalization, but only after pressure from his physician and his family. He stayed in the ward only half a day, leaving against medical advice.

C. *Forced admission:* The patient's admission resulted either from commitment, threat of commitment, or by direction of the court, etc. Eight patients were in this group.

Case Example: An 18 year-old white single male was forcibly admitted to the psychiatric ward as a result of an acute incestuous episode a few days earlier, consisting of intercourse with his mother. This particular patient was forced by his father to seek psychiatric hospitalization.

II. *Observations During Hospitalization*

Observations of the therapeutic processes during the hospitalization of these 25 pa-

tients may be divided into four general categories. These divisions of therapy are only for the sake of simplicity or description. It is recognized that such divisions are not so clearly defined for most patients and that more than one type of therapy is generally utilized for the same patient. However, one of the following types seems to predominate for each patient:

A. *Supportive therapy:*

An attempt is made at responding to the patient's current internal pressures, such as his dependency demands, which are usually unconscious. The patient is allowed to experience his acute distress with the assistance of protective psychiatric support with the hope that he will reestablish his previous mental status. This is usually called supportive therapy, and may include the use of medications, electric shock treatment, etc. Because being on the ward itself is part of the supportive therapy, this form of therapy is also included in the other categories which we have described below.

Case Example: We have already mentioned the 27 year-old single white male, Jim, who had a passive-dependent personality. He apparently became dependent on his mother until her death when he was 17 years old. Since that time he has worked in various places as a common laborer. This admission to the hospital came seven years after his first admission to the same psychiatric department, during which time he had a "good experience" with the "psychiatric department". Our examination of Jim indicated that the psychiatric department has become a powerful symbol for him. For seven years he had used the hospital, at least in his fantasy, as a mattress on which to fall. It was almost a last resort for him, an answer to his deep dependency needs. Jim had developed a "transference", that is, a transfer of repressed unconscious feelings from omnipotent parental figures to the psychiatric department. This form of phenomena, transference to a medical center, does occur and it has been described by Wilmer.[6]

During Jim's period of hospitalization, it was decided to treat him supportively by having him experience his acute anxiety and distress by allowing him to become dependent on the Department, thus bringing his fantasy to reality and, therefore, helping him to gradually wean himself from this dependent relationship. Before he was discharged from the hospital, he was told that he could depend on the Department of Psychiatry and he could come back if he experienced real anxiety in the future.

B. *Environmental alteration:*

An attempt is made at responding to the focal problem through some environmental alteration with the hope that these external changes may ease the patient's mental conflict.

Case Example: A 16 year-old white married woman, Mary, was referred by her family physician during her fourth month of pregnancy. She had been married for approximately nine months to a man 27 years of age. Her symptoms included severe headaches, insomnia, anxiety, and frequent periods of crying. She had lived with her husband's parents since her marriage. During this time, her husband began "molesting" her 13 year-old sister and committing other acts of perverted sexual abuse. Furthermore, on several occasions, Mary's brother-in-law attempted to abuse her sexually.

During her period of hospitalization, the primary means of therapy was that of some environmental alteration. With the help of a social worker, arrangements were made for Mary to be placed with a stable family member, thus removing her from the intolerable situations that existed at the time of her admission.

C. *Insight psychotherapy:*

Some attempts are made at lasting "intrapsychic" changes. At the time of admission, the ward supervisor and the resident usually

are able to make a "genetic diagnosis". In psychiatry this last term

> refers to an understanding of the origin and development of the patient's personality and current conflicts and to an appraisal of the situations, experiences and reactions which led to the development of the current dynamic constellation.[5]

Serious childhood rejections, childhood overstimulations, other childhood trauma, etc., are examples of genetic factors. A host of life-experiences which,

> occurring with undue intensity or at a vulnerable period in the life of the child or in a particular sequence or configuration, may have led to the development of the unhealthy aspects of the child's personality, to those forces which currently are operative in producing the patient's disorders.[5]

To work through these conflicts in order to change the present focal problem takes time and requires special technical conditions, such as developing a "transference neurosis", etc. This form of therapy usually is called "insight psychotherapy".

While "genetic" interpretations were made to nine out of the 25 patients examined who mainly received supportive therapy and environmental alteration, only two of the 25 patients were approached with the techniques of insight psychotherapy. For one of these patients, it was the second long-term admission. The other one was chosen by the resident to be treated as an outpatient after his discharge from the ward.

Case Example: A middle-aged married woman was admitted with a history of having a rather lengthy (many months) previous hospitalization approximately two years ago. During this previous hospitalization, the patient developed a meaningful relationship with her extern (medical student). At the time of readmission, she knew that her resident physician would be the person who had been her extern at the time of her previous admission. Therefore, in addition to being admitted voluntarily, this patient was well prepared and motivated with a built-in or pre-existing "positive" transference with her physician. She was also well-known to other members supervising the resident under whose care she had been placed. Because of the past experience with this patient, the resident and supervising staff member decided to approach her by attempting some "intra-psychic" changes. Also, it was felt that there was no other way to approach her symptoms (symptoms of multiple personality) except to give her the necessary emotional insight. The "intra-psychic" conflict rooted in childhood had to be dealt with in order to ease her focal problem. A long-term outpatient treatment was not recommended at this point because of her suicidal condition.

Throughout her period of therapy, events occurred which were constantly associated with genetic or developmental events in this patient's history. Her dreams were examined and interpreted. During her hospitalization, she displayed characteristics of two separate personalities. Near the end of her rather lengthy hospitalization, she had a dream which consisted of two separate women who were leaving or moving away from her. The patient, herself, was later able to interpret this as her giving up two separate personalities, and retaining one unified personality.

D. *Evaluation:*

Some patients are admitted only for a psychiatric evaluation and recommendation for disposition.

Case Example: A 60 year-old married man was admitted to the psychiatric ward with symptoms of a chronic brain syndrome and associated paranoid tendencies. He had accused his wife of infidelity and had made some homicidal threats to her. It was felt that this patient would need long-term protective care, along with treatment with drugs. Because of the possibility of violence

to himself or to his family and other practical considerations, the members of the family were advised to have the patient transferred to a state hospital.

III. *Observations at the Time of Discharge*

At the time of discharge in each of the 25 patients observed, some attempt was made to determine if any significant changes had occurred in their focal problems. These evaluations were based on the clinical judgment of the authors and those personnel involved in the patient's treatment.

Only six of the 25 patients observed were felt to have experienced some resolution of their focal problems. However, the symptoms were less intense at the time of discharge in 18 of the patients, and unchanged in the remaining seven patients. Of these seven patients, two signed out against medical advice. In no cases were the symptoms considered more intense at the end of hospitalization, and, in cases where they were considered unchanged, the treatment of hospitalization had been unusually brief.

Although eight of the patients required further psychiatric care at the time of discharge, one patient was returned to his family physician for continuation of the treatment of his emotional condition. In all cases, however, the referring physician was sent a letter describing the outcome of the patient's hospitalization. Other dispositions included advice for legal assistance, referral to vocational rehabilitation, and recommendations for return home.

Summary

Observations were made of the therapeutic process of 25 patients admitted to the in-patient psychiatric service of the University of Virginia Hospital.

If an analogy may be made between the psychiatric in-patient service and a gasoline service station, we may suggest that most patients are admitted to the psychiatric unit for some "patch-up" job. This job is very important to the patient and, indeed, it may be essential at that time of his life. It may be compared to changing the oil and filling up the water of the cars in the service station. Attempts at changing the patient's environmental stress can be comparable to giving road maps to the traveller at the way station. In his kind of psychiatric in-patient service, very seldom are more drastic intrapsychic changes attempted, comparable to mechanical work on the motor of a car in a garage.

Thus, although only six of the 25 patients experienced some resolution of their focal problem, 18 experienced significant reduction in the intensity of their symptoms by the time of discharge.

It is hoped that these observations will not only be helpful for the psychiatric staff to describe and categorize what is done on the psychiatric ward of a general hospital, but will also be informative to referring physicians concerned with these issues. Since these observations were made, there have been positive changes at the psychiatric wards at the University of Virginia Hospital. These changes include plans of refurbishing the wards to make the physical environment more pleasant, increasing the quality and quantity of supervision of patients' treatment by the staff psychiatrists, obtaining more consultation on the patients' problems by the use of audio-visual facilities, and more emphasis on "milieu therapy" i.e., more effective team work among the physician, nurse, occupational therapist, social worker, etc. for the patients' care. Also, an "acute in-patient service" has been established for patients who need hospitalization of a week or less for "crisis intervention". Despite these modifications and improvements, the in-patient unit at the University of Virginia Hospital remains fairly representative of the in-patient services of all or at least most university and general hospitals in Virginia and in the neighboring states. We hope, therefore, that our observations will have more than a "local" message.

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Leading Causes of Accidental Death

It is estimated that about 114,000 persons in this country will have died from injuries sustained in accidents during 1968, making it the sixth consecutive year in which the toll of 100,000 has been surpassed. For the population at all ages combined only cardiovascular diseases and cancer are more frequent than accident as causes of death. Moreover, among males at ages 1-40, accidents rank first as a cause of death.

A continuing rise in motor vehicle accidents has been the chief cause of the increase in total deaths from accidents. The overall death rate from accidents other than motor vehicle actually showed a drop of about 7 percent from 1956 to 1966.

Motor vehicle accidents account for more fatalities than any other type of accident in every age group except the elderly. For example, among males at ages 20-24, motor vehicle accidents are the cause of 7 out of 10 accidental fatalities, and about 5 out of 10 among males in the broad age range 25-64.

Although falls are the second ranking cause of fatal accidental injuries among both males and females at all ages combined, their importance varies considerably by age: they rank fifth at ages under 25, but become first by an appreciable margin at ages 75 and over. Except at these advanced ages, the death rate from falls is much higher among males than among females.

It is among the youngest and oldest groups here considered that accidental fires and explosions produce the highest mortality. High death rates from this cause have been recorded consistently at ages 65 and over.

Drownings and firearm accidents are also major causes of fatal injuries, with males being the most frequent victims.

The mortality from firearm accidents likewise reaches its highest level among males at ages 15-19, with the age group 20-24 next highest.

Although accidental poisoning by solids and liquids ranks fourth as a cause of accidental death for females, it is relatively not so important a cause among males. Preschool children suffer the highest death rate from such accidental poisoning, the hazard being especially pronounced at age 1.

The death rate from accidental injuries at home varies markedly by sex and age. It is the site of 1 out of 7 accidental fatalities among males and 1 of 9 among females.

—*Statistical Bulletin, Metropolitan Life Insurance Company*

Clinicopathological Conference . . . .

Heart Failure and a Loud Cardiac Murmur

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Clinical History

A 45-year-old Negro male was admitted to Medical College of Virginia Hospitals on 9-9-67 because of severe sub-sternal chest pain associated with orthopnea and shortness of breath present since early that morning.

The patient had been seen at the Medical College of Virginia in February, 1964, because of shortness of breath and dependent edema of two days' duration. He had been well up until the onset of these symptoms and gave no past history or family history of syphilis, rheumatic fever or other forms of heart disease. His physician had examined him a year prior to the beginning of his symptoms and his cardiac status was said to be normal.

Physical examination revealed a blood pressure of 110/80 in both arms. The fundi were normal. There was no neck vein distention noted. The lungs were clear to percussion and auscultation. The cardiac point of maximal impulse was in the 6th intercostal space in the midclavicular line. There was a right precordial heave and a thrill was noted in the fourth left intercostal space with radiation to the apex. There were no diastolic murmurs. A grade IV/VI pansystolic murmur was heard at the apex. P2 was palpable and A2 was split on expiration. The liver was not enlarged. There was 1-2+ pitting edema of the feet and pretibial regions. There was no clubbing of the extremities. The remainder of the physical examination was normal.

Laboratory data: The urine was yellow, clear and acid with a specific gravity of 1.015. Albumin, sugar and acetone were negative. Microscopic examination of the urinary sediment was normal. Hemoglobin 15.8 gm%, WBC 6,900/mm^3 with a normal differential. Serology, non-reactive. Alkaline phosphatase 2.8 BL units, cholesterol 157 mg%, C-reactive protein was negative. Antistreptolysin titer 12, SGOT 20, total serum bilirubin 0.2mg% with direct reacting fraction of 0.1 mg%. BUN 10 mg%, blood sugar 91 mg%, serum sodium 140 mEq/l, potassium 4.1 mEq/l, chlorides 110 mEq/l, and CO_2 23 mEq/l. Serum LDH was 470 on admission and rose to 940 on the ninth hospital day but declined to 550 by the twelfth hospital day. An electrocardiogram revealed right axis deviation with right ventricular hypertrophy. A chest film was reported as showing cardiac enlargement to the left. The pulmonary vessels were slightly increased but there was no evidence of pulmonary congestion. A cardiac series with fluoroscopy revealed no definite calcification of the mitral valve. There was prominence of the pulmonary artery segments and slight accentuation of the pulmonary vasculature. No definite chamber enlargement was seen. The phonocardiogram revealed a pansystolic murmur in the 4th intercostal space and a 3rd heart sound was seen intermittently. The second heart sound was not noted to have fixed splitting. The patient underwent a right cardiac catheterization which revealed evidence of marked pulmonary hypertension and an elevation of the pulmonary vascular resistance with no evidence of left ventricular disease. There

was no evidence of left to right or right to left shunting although the former was suggested by an indicator dilution curve from the superior vena cava. There was a wide arterial venous oxygen differential and the cardiac output was low, both on which findings were thought to be consistent with heart failure, presumably right ventricular failure. The right atrial and right ventricular end diastolic pressures were 8 mm of mercury. The patient made an excellent response to bed rest, restriction of salt and the administration of Digitalis and was discharged to the care of his local physician. He did well after discharge, but in 1966 began suffering increasing difficulty with cardiac failure and became unable to work.

Past medical history, family history and review of systems are as noted in the history of the present illness.

Physical examination: BP 110/90 in both arms, P 120 and irregular, R 28, T 98°. The patient was an acutely ill orthopneic Negro male who was cooperative and pleasant. There was marked neck vein distention at a 20° angle. The chest was symmetrical. Respiratory excursions were rapid and there were coarse and fine rales throughout both lung fields. A pleural effusion was detected in the right base. The cardiac point of maximal impulse was in the anterior axillary line in the 6th intercostal space. There was a very forceful precordial systolic heave. A grade V/VI harsh pansystolic murmur was heard loudest at the left sternal border and appeared to radiate into the axillae and back. P2 was greater than A2. The rhythm was grossly irregular and there were prominent venous pulsations in the neck. There was epigastric fullness and the liver was enlarged 10 cm below the right costal margin with a smooth tender edge. No other organs or masses were detected. There was 3+ pitting edema of the ankles and the sacral area. Peripheral pulses were good.

Laboratory data: The urine was acid with specific gravity of 1.016. There was a trace of albumin. Glucose and acetone were negative. Examination of the urine sediment was normal and the urine was negative for blood and bile. Hemoglobin 18.1 gm%, WBC 10,800/mm^3 with 81% neutrophils, 2% eosinophils, 12% lymphocytes, and 5% monocytes. Platelet count 131,000/mm^3, reticulocyte count 2.2%, prothrombin time concentration 43%. Three LE preparations were negative. Serum bilirubin 9.2 mg% with 4.8 mg% direct. Total protein 7.3 gm% with 3.1 gm% albumin. Thymol turbidity 7, SGOT 21, LDH 86, serum cholesterol 130, alkaline phosphatase 2.9 BL units, BUN 13 mg%, creatinine 1.5 mg%, 2 hour post-prandial blood sugar 116 mg%. Serum sodium 130 mEq/l, potassium 4.5 mEq/l, chlorides 96 mEq/l, CO_2 13 mEq/l.

An electrocardiogram revealed auricular fibrillation with a rapid ventricular response and occasional premature ventricular contractions. There was right axis deviation, Digitalis effect and probable right ventricular hypertrophy with some clockwise rotation.

Chest x-ray revealed an enormous heart and thoracic aorta, with mild congestive changes in the lower lungs. An upper GI series was essentially normal except for the impression on the stomach by a prominent left lobe of the liver. Cardiac series showed a massively enlarged heart and the possibility of a pericardial effusion was raised. A heart scan was suggestive of the presence of pericardial fluid. Atrial blood gas studies on admission revealed a PO_2 of 51 with a hemoglobin oxygen saturation of 86%. PCO_2 was 27% of mercury and the Ph was 7.45. The findings were interpreted as being indicative of severe hypoxemia with moderate-severe hypocapnia and compensated respiratory alkalosis. The patient was treated vigorously with Digitalis and diuretics, but continued to have clinical and laboratory evidence of severe congestive heart failure. He died suddenly on 9-20-67 while being transferred from the bed to a stretcher.

An autopsy was obtained.

Clinical Discussion

Dr. Lower: I found this a very difficult case mainly because I don't think there is any single diagnosis that fits all of the data. The summarized problem is a 45-year-old Negro male who has a loud holosystolic murmur, pulmonary hypertension, who subsequently developed a tremendously enlarged heart due to pericardial effusion and became jaundiced and died. The problem is to decide what kind of heart disease he had. We are told that the chief complaint on admission in 1967 (the final admission) was severe substernal chest pain and much shortness of breath present since early that morning. As we don't know what time he arrived here, we don't know how long the pain was present, but I assume he got here late in the day so that the pain had been present for some time. When one is faced with a middle-aged Negro male in this institution, with a lot of substernal chest pain, the problem of dissecting aneurysm is placed very high on everyone's list of differential diagnosis. Certainly this must have been thought of in addition to the other causes of severe pain and shortness of breath such as myocardial infarction, pericardial disease, pulmonary embolism, or pneumonia. Since we later find out that the patient did have pulmonary hypertension, it is possible that this is a pain which is sometimes associated with pulmonary hypertension; a kind of chest pain which is very poorly understood. Exactly why a patient with severe pulmonary hypertension has episodes of chest pain I do not understand.

His past history reveals that in 1964 he was first seen with symptoms of right and left heart failure. At this time some fairly pertinent information was obtained. He had a very loud holosystolic murmur. I am confused about the physical findings described in the protocol. It states that he had a short systolic murmur in the 4th left intercostal space with radiation to the apex. Then it is also stated that he had a grade IV pansystolic murmur at the apex. Was this thought to be the same murmur or really two murmurs?

Dr. John H. Moon: There were thought to actually be two separate murmurs.

Dr. Lower: It would be difficult to discern two murmurs. The significant thing as far as the murmur is concerned is that it is a very loud murmur and is pansystolic. I feel a great deal in this case must hinge on this murmur. There are very few things in the heart which produce a grade IV pansystolic murmur with thrill. Certainly the most common entity would be a ventricular septal defect. It is true that occasionally the semilunar valvular stenosis can produce a very loud systolic murmur. This is usually separated out by being a characteristic ejection murmur that is transmitted up into the neck or supraclavicular area. It seems unlikely that this murmur comes from the semilunar valve. Could it come from the atrial ventricular valves? Again, atrial ventricular valve regurgitation rarely gives you a murmur of this loudness. It is later described as a grade V murmur which is a pretty loud murmur and really wouldn't be, as described later on, at the lower left sternal border radiating toward the axilla and back. This doesn't really sound like a mitral insufficiency murmur but there will be more evidence for or against this later in the protocol. We have, then, a patient with a loud systolic murmur and thrill and collateral evidence of pulmonary hypertension. There is a loud P2. Dr. Kemp, would you tell me the significance of A2 being split on expiration?

Dr. Kemp: The second heart sound on expiration is paradoxical. It occurs in a number of situations, commonly left bundle branch block; delayed emptying of left ventricle more than the right ventricle.

Dr. Lower: Pulmonary hypertension should produce the opposite though, should it not?

Dr. Kemp: Yes.

Dr. Lower: The splitting on expiration should disappear, right?

Dr. Kemp: Right.

Dr. Lower: So, presumably, this should be something of considerable significance in this case. I find it hard to fit in with the possible diagnoses which I arrived at, but we will come back to that later. I get very little help at this point from the laboratory data and I think the features of primary concern on the initial admission in 1964 are the x-rays and the cardiac catheterization. I will describe what I see on the x-ray films.

This is a very interesting cardiac silhouette and I think will be of some help in our differential diagnosis. The most striking feature in the x-ray is that the main pulmonary artery segment and many pulmonary artery branches are quite prominent. At least centrally the main pulmonary vasculature is quite prominent. There is no evidence of pulmonary congestion. There is no pleural effusion. There is no valvular calcification obviously detected and the other feature which may be of some significance is that the aortic knob looks quite small to me. The other striking finding in view of the fact that this man has pulmonary hypertension is that the left atrium doesn't appear to be enlarged on the films—suggesting that the origin of the pulmonary hypertension must be somewhere proximal to the mitral valve—and not simply secondary to mitral valve disease producing enlargement of the left atrium. It is of some concern that the left atrium doesn't seem to be enlarged. The most likely diagnosis to explain the murmur, its loudness, its pansystolic nature, and its location at the lower left sternal border, would be ventricular septal defect. Ventricular septal defect is usually associated with at least some left atrial enlargement which clearly seems to be excluded by these films. I don't see Kerley's V lines or any other evidence of pulmonary venous hypertension or lymphatic hypertension. A right anterior-oblique film shows that the aortic shadow is really not very impressive. It looks small and later on in the protocol it is said that the aortic shadow was quite large. I can't agree that the aortic shadow is large at all.

We come then to the cardiac catherization and the only thing we learn from this study is that the patient had pulmonary hypertension which we actually knew from the history. Can we get any more information about the cardiac catherization such as: Was the wedge pressure obtained? Was an intracardiac microphone introduced? The location of the murmur might be of great interest since a shunt by oxygen determinations could not be demonstrated. One would have to use a hydrogen electrode to detect minimal shunt. Dr. Moon has shown me the catherization data and I will just read the pressures as I think they are quite important.

"Patient had a right ventricular pressure of 90/0-8 cm. of H_2O" (certainly much elevated over normal). End diastolic pressure not elevated, suggesting that there is at least good function of the right ventricle though the pressure is very high. "Pulmonary artery pressure 82/21 with a mean of 43 cm of H_2O"—slightly lower than the right ventricular systolic pressure—but not enough gradient to really explain the very loud systolic murmur. "Wedge pressure was obtained as being 10 cm of H_2O"—well within normal limits. I think this is very important information — to exclude the possibility of the pulmonary hypertension coming from difficulty on the left side of the heart. A normal wedge pressure pretty well rules out trouble on the left side which can produce pulmonary hypertension such as mitral valve disease, cor triatriatum, stenosis of the pulmonary vein or pulmonary vein emptying into some abnormal chamber or a small channel producing pulmonary venous obstruction. This man has pulmonary hypertension due to trouble proximal to the pulmonary veins and capillary beds. One other point: The brachial

artery is described as showing a pressure of 142/75 on one occasion, and 128/72 on another occasion both of which are significantly higher than the right ventricular pressure. There ought to be an equilibration of the pressure if there is a large ventricular septal defect. This means that there was no equilibration of pressures—on the right and left sides, evidence against a large ventricular septal defect with pulmonary hypertension on that basis. At that time, Dr. Moon, was the arterial saturation normal?

Dr. Moon: 98% saturation.

Dr. Lower: So at that time the man had a loud murmur, location unknown. A phonocatheter wasn't used and no hydrogen electrode was introduced to detect a small shunt. We do know he has pulmonary hypertension, has a loud murmur, normal wedge pressure, and has reasonably good cardiac function. He probably was treated before the catheterization because his symptoms of failure disappeared. He was catheterized, thought to have inoperable pulmonary hypertension of some kind and sent out on medical therapy. He did pretty well initially but apparently began to go down hill beginning in 1966 with increasing difficulties and then this precipitated his most recent admission in 1967.

He comes back to the hospital acutely ill, with shortness of breath, a lot of chest pain, and a lot more left and right heart failure. The symptoms of left heart failure are distressing to me because apparently they were present even with this initial admission. One would expect that if this is all due to pulmonary hypertension, that the symptoms of right heart failure would certainly dominate the picture. We know that patients with primary pulmonary hypertension don't have orthopnea, at least in the earlier stages of their disease. The patient still has a very loud murmur. It has gone up a grade—to Gr. V. It is still described as harsh and pansystolic. It still fits best with the description of a ventricular septal defect and one is tempted to think that the pulmonary hypertension is related to a ventricular septal defect. The trouble with that is by the time the pressure in the right side gets high enough, so that the patient begins to become cyanotic, he is hypoxic presumably due to right-to-left shunting. At this point, the murmur should begin to disappear. Certainly it shouldn't be louder. The Eisenmenger complex is usually associated with a much less impressive murmur than the typical left-to-right shunt through a ventricular septal defect with normal pressures. In our patient there are the collateral signs of pulmonary hypertension, and it is curious that the patient is described as orthopneic and acutely ill. It doesn't say that he was jaundiced on admission and yet we are told under the laboratory data that he has a serum bilirubin of 9.2 mg%.

Dr. Moon: Initial admission laboratory work made no note of jaundice.

Dr. Lower: One would surmise that somebody didn't look at his sclerae at that point or he very rapidly had this rise in serum bilirubin after admission. As far as the laboratory data is concerned, it is interesting to note that his hemoglobin had risen from the initial value in 1964 of 15 gm% to 18 gm% in 1967 which would suggest that either he was dehydrated on admission, which I doubt, or he has had some hypoxia for sometime and he had a compensatory rise in his hemoglobin. It is difficult for me to resolve this serum bilirubin of 9.2 mg% with the conjugated fraction being equal to the unconjugated fraction. All the other liver function tests are normal. You hardly ever see this. One wonders if the man is in significant congestive heart failure; whether the elevation in bilirubin is due to passive congestion of the liver. I think in some cases of severe congestive failure, severe right-sided congestive failure, we do see elevation of bilirubin. I don't think I've ever seen bilirubin elevated to this degree. If the bilirubin were elevated to this degree on the basis of passive congestion, I would

also expect some of the other liver function tests to show some derangement. The patient may have had some extrahepatic biliary obstruction which was intermittent. This certainly doesn't fit with hemolysis, pulmonary emboli, particularly with an elevation in the conjugated fraction. The EKG showed deterioration from the previous examination. On the initial admission in 1964 there is a sinus rhythm. There is biphasic P wave which may or may not be indicative of atrial enlargement. There is evidence of right ventricular hypertrophy. The EKG from the last admission shows definite atrial fibrillation. He is having multifocal premature ventricular contractions. In terms of pericardial effusion I don't find anything diagnostic in the EKGs to help in making or eliminating that diagnosis. The major change is atrial fibrillation and some ventricular extra systoles on the second admission. Now we come to the x-rays on the second admission.

There is tremendous change in his cardiac silhouette on the second admission. There is a chest film made in 1966. (Fig. 1) This also showed a very large cardiac silhouette so this change wasn't very precipitous. Whenever you see this tremendous enlargement, immediately one thinks of pericardial effusion. There isn't anything characteristic about the contour. We saw the tremendous hump in the right ventricular outflow tract before suggesting that this pericardium is distended with fluid. The protocol says the aorta is large. I don't see that. The film suggests that it is small. I think this is important because the size of the aorta helps me with a patient who has some kind of a shunt, at least a high pressure shunt. I have to decide whether it is intracardiac or extracardiac and most of the extracardiac shunts such as patent ductus, aortic pulmonary window, or coronary artery fistula ought to have an enlarged aorta. If the aorta is small it suggests that the shunt is intracardiac rather than extracardiac.

The lateral film in 1967 confirms our original impression. I do not see left atrial enlargement. The barium column drops straight down although there is tremendous cardiac enlargement and we don't see any valvular calcification to help localize the diagnosis. What is the interpretation of the cardiac scan?

Dr. Cassida: The scan does not show an uptake in the region of the pulmonary artery and I think the distance between the right side of the pool and the right side of

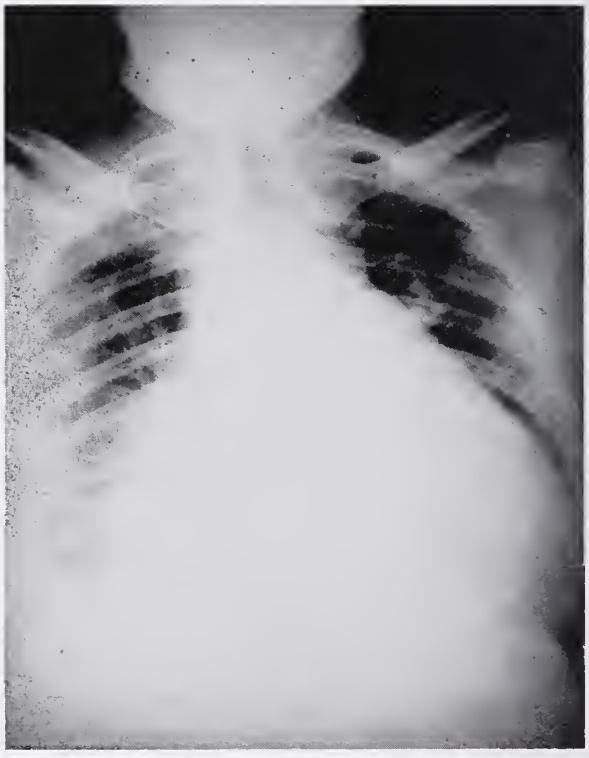


Fig. 1. Chest film of 1966.

the heart as well as the distance between the heart and the liver is significantly increased suggestive of pericardial effusion.

Dr. Lower: Almost diagnostic, wouldn't you say?

Dr. Cassida: Yes.

Dr. Lower: That's pretty good when you can get them to say "almost diagnostic". It would appear that he had some pericardial effusion at this time as well as cardiac enlargement.

In summary, this patient presented with

a very loud murmur, symptoms of right and left heart failure, severe pulmonary hypertension, and his heart failure worsened over the years. He came in and died in heart failure with a very significant degree of jaundice and with a pericardial effusion. I found it very difficult to fit all of these into one diagnosis. It doesn't fit the typical Eisenmenger complex in that the murmur is much too loud and prolonged to be the large ventricular septal defect associated with pulmonary hypertension and there is no equilibration. I can't put the murmur and pulmonary hypertension together. I will have to say that he had a ventricular septal defect or a left ventricular right atrial shunt which is small and which is unrelated to the pulmonary hypertension. I would rule out the extracardiac shunts although small shunts might not show enlargement of the aorta but most of the extracardiac shunts, while they may generally give you a continuous murmur in the face of pulmonary hypertension, may only give you a systolic murmur, but they will show enlargement of the aorta. I will say it is an intracardiac shunt. It is small and unrelated to his pulmonary hypertension. As to what is causing the pulmonary hypertension, I can only say that I believe it is not related to left sided heart disease although it is a bit disturbing that he has orthopnea. There is no collateral evidence that he has left sided heart disease. He has a normal wedge pressure. He has a small left atrium. The only disease on the left side which would be present to this degree and cause this pulmonary hypertension without left atrial enlargement would be stenosis or involvement of the pulmonary vein. The pulmonary veins again do not appear particularly prominent on any of the films. The patient has a normal wedge pressure which again would be against pulmonary venous obstruction. So the obstruction is in the lungs. It is either primary pulmonary hypertension, or it is secondary pulmonary hypertension due to embolization, multiple pulmonary emboli. I suppose it is possible that he could have right-sided cardiac tumor with an embolization of tumor to the lungs. We don't see any evidence of this on the films. Pericardial disease: It should be secondary to heart failure of long duration rather than any primary component in this patient. Whether he had myocardial disease or not is a difficult question to face. Primary myocardial disease couldn't explain the shunt. This would rarely be expected to produce pulmonary hypertension of this magnitude this early in the course. The only thing which suggests myocardial disease is the fact that he had symptoms of right and left heart failure apparently appearing almost at the same time.

Two diagnoses would be:

1. Small intracardiac shunt probably ventricular septal defect.
2. Pulmonary hypertension probably unrelated to the ventricular septal defect probably primary in nature or due to multiple small pulmonary emboli.

Pathological Discussion

Dr. William J. Frable: In this case, the diagnosis is to be found in the lungs. There were multiple pulmonary emboli which are both old and recent. The organization of some of the emboli has led to marked diffuse web formation within the branches of the pulmonary artery. (Fig. 2) There was cardiac hypertrophy with total weight of the heart being 525 grams—but the right ventricle was 1.2 cm in thickness. This is a considerable right cardiac hypertrophy. There was no cardiac shunt in this case. There was dilatation of the right atrium and the right ventricle. The tricuspid ring was dilated and there was evidence of tricuspid insufficiency. There was a mural thrombi of recent origin in the right atrium. There was severe arteriosclerosis of the pulmonary artery. Cardiac cirrhosis of the liver and thrombi in the veins of the legs were present.

There was other evidence of heart failure with serous effusions in the pleural spaces, and pericardial effusions, 400 ml in this case. The pulmonary arterial branches in the gross show multiple fibrous bands across the arterial branches with collateral chan-



Fig. 2. Web formation in pulmonary artery.

nels. There is organization, recannalization of thrombi-emboli. Histologically there appears to be an artery within an artery and elastic tissue stain showed that this actually is arterialization of an old thrombus. (Fig. 3) This is a very unusual finding. How much of this provides for a shunt, I don't know. I could not find any information on how much blood would be shunted through the collateral channels within these thrombi. There is blood within them. The tricuspid ring was dilated with good evidence of tricuspid insufficiency. Microscopically there was striking right ventricular hypertrophy.

The heart murmurs may perhaps be explained on the basis of pulmonary arteriosclerosis, and tricuspid insufficiency or the large mural thrombus in the right atrium. I can't be sure which one accounted for the loud cardiac murmur. The liver showed a brownish color with some indication of old hemorrhages and severe passive congestion.

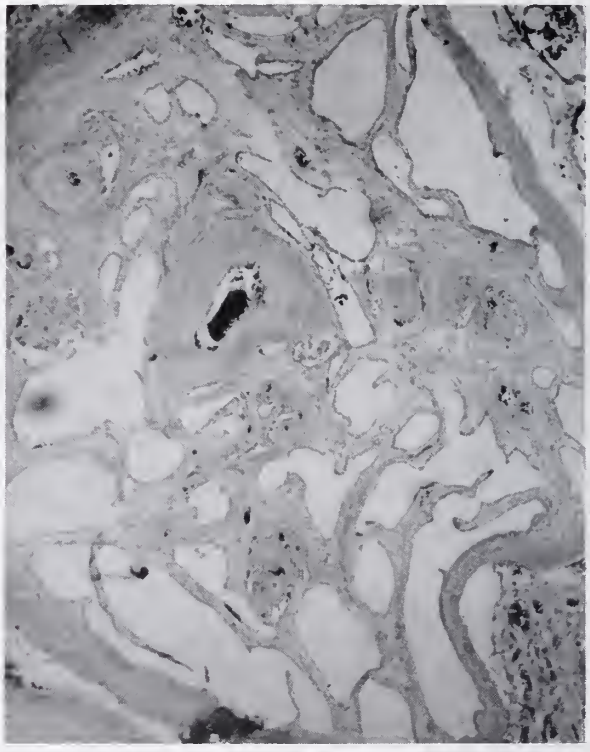


Fig. 3. Organization of emboli in pulmonary atrery branches with arteriolization. H & E x 25.

The sinuses are widely separated and there is evidence of cardiac cirrhosis. Special stains show the fibrous tissues extending out from the central veins, consistent with the diagnosis of cardiac cirrhosis. I have seen bilirubin elevated to the degree of this patient in one case of rheumatic heart disease and tricuspid insufficiency. As in this case, there were no liver function tests.

The source of the old emboli is open to question. The prosector, Dr. Joshi, did an extensive examination of the veins in the legs and has reviewed the literature on this problem. After searching many blocks microscopically, he found in the leg veins fibrous tissue scars, with a very few inflammatory cells, on the vein walls. Some people believe these are the end result of old organ-

ized thrombi most of which has embolized and disseminated elsewhere. We also find these scars in the leg veins of patients who have no evidence of pulmonary embolization or embolization anywhere else.[3] It has been shown experimentally that whole thrombi can disseminate from the vein leaving no evidence of having ever been there.[3] We examined the periprostatic veins which are always a good source of emboli and found nothing.

The webs and bands within the pulmonary vascular tree were first described as congenital by Zahn in 1889.[4] Later in the English literature in 1932, Saphir did an extensive study and decided they were undoubtedly the result of old pulmonary emboli with organization.[2] Of more interest is the report by Owen of the 12 examples in 8,000 autopsies in Massachusetts General Hospital with findings which are similar to the case under discussion. Cor pulmonale, cardiac murmurs and cyanosis was prominent, and the other findings in that reference fit in well with this case.[1]

Anatomic Diagnosis

I. *Pulmonary embolism, old, organizing, and recent, marked, diffuse, with web formation on endothelium of multiple branches of pulmonary artery.*

   a. *Hypertrophy of heart 525 grams, predominantly right ventricular 1.2 cm.*

   b. *Dilatation of right atrium, right ventricle, and tricuspid ring (14 cm).*

   c. *Mural thrombi of right atrium, recent.*

   d. *Arteriosclerosis of pulmonary arteries.*

   e. *Cardiac cirrhosis of liver.*

   f. *Thrombi of veins in leg, remote, healed.*

II. *Clinical congestive heart failure.*

   a. *Serous effusion, pleural 500 ml right, 300 ml left, 400 ml pericardial.*

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Cancer Trends . . . .

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Carcinoma of the Vagina

Carcinoma of the vagina is an uncommon malignancy occurring in a ratio to cervical carcinoma of 1:30, with an incidence of 2% of all GYN malignancies. The rarity of the tumor makes it a relatively unfamiliar one even to the specialist in obstetrics and gynecology.

Past attitudes towards carcinoma of the vagina reflected considerable pessimism. It was strongly believed that the biologic behavior was unpredictable and that anatomic staging as performed for cervical carcinoma was not possible. Even into the 1930's the results of treatment led to the statement that this was an incurable disease.

More recent experience has led to an international classification for primary vaginal carcinoma and results of treatment have led to a more optimistic view. The international staging now used for carcinoma of the vagina is as outlined below. The adequacy of this staging has not been fully tested and further experience will probably show both a need for sub-divisions of Stage I and an identical prognosis for Stages III and IV.

International Classification
Carcinoma of the Vagina

Stage 0.
Carcinoma in situ, intraepithelial carcinoma.

Stage I.
The carcinoma is limited to the vaginal wall.

Stage II.
The carcinoma has involved the subvaginal tissue but has not extended on to the pelvic wall.

Stage III.
The carcinoma has extended on to the pelvic wall.

Stage IV.
The carcinoma has extended beyond the true pelvis or has involved the mucosa of the bladder or rectum.

In order to establish that the tumor is a primary vaginal carcinoma, the cervix should be uninvolved and there should be no evidence that the tumor might be secondary to cancer elsewhere.

Unfortunately, there are no characteristic early signs or symptoms of the disease. The usual symptoms of discharge or bleeding are described in almost all cases. The offending lesion may be overlooked during pelvic examination if the speculum is not carefully rotated to expose the entire vaginal wall.

The predominant cell type is squamous cell, but adenocarcinomas are also found. Other rare tumors such as melanoma and sarcomas have been described in the vagina. The adenocarcinomas constitute about 5% of the total histological types found. The relationship between histologic grading and prognosis needs evaluation but currently is not used in deciding prognosis or therapy.

The growth characteristics of this tumor might be expected to follow those found in cervical carcinoma, but this may not be entirely true. The percentage of positive

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Papanicolaou's smears in the presence of tumor is less than that in cervical disease and the growth of these tumors appear to be predominantly of an endophytic nature. Two recent early cases referred to the Gynecology Service at MCV had progressive growth under an intact epithelium and negative cytology. Biopsies through the epithelium into the tumor revealed the nature of the disease in each case.

Nodal spread or distant metastases do not seem to occur any earlier than cervical disease and apparently are influenced by the anatomical lesion of the primary lesion. The age of the patients developing this malignancy is 10 to 20 years older than that seen in cervical carcinoma and the importance of race, parity, etc., has not been definitely established.

Therapy may be by either radical surgery or radiation. Radical surgery is usually an exenterative procedure except in small lesions of the upper one-third of the vagina where radical hysterectomy-colpectomy may be applied. Current data show that radiation therapy and surgical therapy have similar cure rates. Radiation therapy is the primary choice since the cure rate is comparable to those patients treated surgically and the disability is considerably less. A combination of radium plus external therapy with special emphasis on individual radium planning is most important. Serious radiation injuries are uncommon.

Cure rates are not currently established. The "Annual Report" in 1963 failed to report results by stage and gave only an overall five year cure rate of 34.7%. Under current staging, it is expected that future reports will show a cure rate of Stage I of 60%; Stage II one-half as many survivors or 30%; and Stages III and IV essentially no survivors.

Improvement in overall cure rate will rely upon early detection as with other malignancies of the reproductive tract. Cytology will prove useful in the detection of early disease, but biopsy of visible vaginal lesions or palpable nodules should be stressed.

Comments

This article emphasizes the importance of a thorough evaluation of the vagina as part of the pelvic examination. The physician should look for lesions and palpate for nodules, keeping in mind the possibility of a primary vaginal carcinoma. The necessity of performing a biopsy on all vaginal nodules as well as visible lesions is made.

As Dr. Dunn has clearly pointed out the pessimism formerly associated with this disease is not justified. Early diagnosis and management as he has outlined give encouraging results.

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Mental Health . . . .

HOBART G. HANSEN, M.D.

One of the Gloomiest, Saddest Days in the History of the Western Lunatic Asylum

In his annual report for the fiscal year ending September 30, 1883, Dr. Robert S. Hamilton, Superintendent of the Western Lunatic Asylum, describes Saturday, the 24th of February, as "one of the gloomiest, saddest days in the history of the Western Lunatic Asylum. Five corpses lay shrouded within its walls; and in two of the wards a hard, persistent fight was being made by the physicians to save the lives of three other inmates."

As had been common practice up to that time, medications for Saturday morning were prepared just before supper on Friday evening. Dr. Butler, third assistant physician and druggist, had prepared the medicine for use the next morning, pouring each patient's dose in a mug labelled with the patient's name. He had placed the mugs for each ward on a separate tray and deposited the trays in a cabinet in tiers of three. The cabinet stood outside of his office in a public hallway where it was accessible to anyone passing through.

About one and one-half to two hours later, immediately after supper, the attendants for each ward had carried the medicine trays to their respective wards where they locked them in their rooms. This practice had been followed for years except that a cabinet had been substituted for an open table several months earlier as a precautionary measure against "flies, dust and other evils".

The following morning, within ten minutes after taking his medicine, Mr. Wilkins of Ward one became comatose and died.

On Ward two, Mr. Adams took his medicine, complained of a burning sensation in his throat and stomach, fell unconscious and died within ten minutes.

Three other Ward four patients, Mr. Sperry, Mr. Myers and Mr. Thomas, showed similar effects. Mr. Thomas, however, threw up his medicine and never lost consciousness. For several days he was noted to be pale, had a weak pulse and complained of burning of his mouth and throat. He recovered gradually.

Mr. Myers suffered a spasm followed by unconsciousness which lasted for eight or nine hours. Upon regaining consciousness, he spoke and recovered without incident.

Mr. Vaughn, a patient on Ward three, fell to the floor unconscious immediately after taking his medicine and was in coma for one and one-half days. He died three days later, apparently from the secondary effects of the medicine on his intestinal tract.

In summary, eight male patients had "taken of the terrible draught", and four had died within minutes. A fifth died in two hours and a sixth, having survived for two days, died on the third.

The medical officials of the hospital immediately secured all mugs and trays and locked them up for safekeeping. The Staunton Commonwealth Attorney was notified and three Staunton physicians, Doctors Atkinson, Gibson and Haller Henkle, were summoned. Professor J. W. Mallet, a well-known analytical chemist at the University of Virginia, was telegraphed to come as quickly as possible.

It seemed evident there was a common cause, probably related to the morning medication. All eight patients demonstrated the same general symptoms of a burning of the mouth, tongue and stomach, prostration,

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Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

loss of muscular power and dilation of pupils.

Either prussic acid or aconite was suspected as the fatal agent even though neither of these chemicals were used at the Asylum nor were they kept on the grounds to the best of anyone's knowledge. Furthermore, other patients receiving the same medicines from the same bottles as the eight victims had not manifested any symptoms of poisoning.

It was determined that the pharmacist had made no error, nor was he believed to be responsible in any manner for the introduction of poison into the eight mugs.

Further investigation eliminated any possibility of a plot involving the three attendants who had delivered the three trays of medicines to the four male wards. It seemed almost certain that the poison was introduced during the one and one-half to two hours after the medicine was prepared by the druggist and before the attendants took it from the hall cabinet and locked it in their rooms.

The post-mortem examinations were purposely deferred until the arrival of Doctor Mallet. Then, in his presence and that of the coroner, jury and others, Doctor Haller Henkle conducted the autopsies. Aside from evidence of an acrid substance having been swallowed, the autopsies revealed nothing of significance.

Contents of the stomachs and portions of the abdominal organs of each of the six bodies were taken by Professor Mallet to Charlottesville for analysis. After exhaustive examination, Professor Mallet reported the poison to have been aconitine, an alkaloid of aconite, or one of its salts. Aconite is a substance which comes from plants known as monkshood or wolfsbane. This is a wild perennial plant which contains several poisons and which is also used in liniments. It has been used for heart medicines and as a sedative in the past.

It was ascertained that the mugs containing the poison were all in the tier of three trays nearest the hallway entrance. The top tray held medicines for four patients from Wards one and two. Two of these contained poison. The middle tray held five mugs for Ward three. Only that of Mr. Vaughn was poisoned. On the bottom tray five of the six mugs for Ward four patients contained the poison.

The coroner's jury consisting of seven Stauntonians held hearings from the 24th of February until March 29th when they concluded, "That the deaths of said parties were caused by some very active poison which in the jury's opinion was the alkaloid of aconite; and they do further say that said parties received said poison in the medicine taken by them on the 24th of February last; but how said poison got into the medicine thus taken they are, from the evidence, unable to determine."

At a meeting of the Board of Directors of the Western Lunatic Asylum on March 14, 1883, Mr. J. H. Parkins, member of the Board, made the motion that, "The Superintendent of the Asylum be authorized to use any and all means he may think proper to solve the mystery of the poisoning of the 24th of February 1883." (This meeting also authorized the installation of the first telephone from the hospital to Staunton.)

Using this authority, Dr. Hamilton decided to secure the services of, "The most skillful, vigilant, and experienced detectives" not known in this vicinity. He believed that it would be necessary to go beyond Richmond and Baltimore. "After deliberation, therefore, and as early as practicable after the subsidence of all excitement and suspicion, it was determined to employ the celebrated 'Pinkertons', who, while operating in all the cities of this country, have their principal headquarters in Philadelphia, and are entirely unknown to our people here."

He kept this knowledge from everyone, including members of the Board and employees. There were several detectives investigating the case in the community and

one operated within the hospital unknown to anyone but the Superintendent.

This operative was an experienced detective and also a physician with diplomas from "at least two first-class medical colleges". He was admitted into the Asylum as a patient, accompanied by an officer and all the papers, forms, et cetera, that were usual and necessary. As he gradually "improved" his privileges were extended and he received permission to visit the city and other surroundings, at first with an attendant and then alone. He remained at the hospital from May 1st until the early part of August, during which time he spent most of his hours in the company of individuals within the hospital and in town who were hostile to Dr. Hamilton's administration. Almost daily he reported to Dr. Hamilton or to one of his colleagues in the Pinkerton Agency.

Later, a report was submitted by the Superintendent of the Pinkerton National Detective Agency which concluded as follows: "In accordance with your request, we selected a first-class detective to make the investigation, who was furnished with every facility by yourself while at the Asylum to get any information that could be obtained, and the conclusion arrived at, from the reports of the detective and personal interviews, is that the poisoning resulted from no carelessness or lack of precaution on the part of the faculty, but was evidently the work of design and has been perpetrated by parties outside of the institution, whom it is unnecessary and would also be unjudicious to undertake to name at this time."

There was much criticism of the hospital administration in newspapers in other parts of the State. Dr. Hamilton wrote of these newspapers, that "regardless of truth and reckless of integrity and propriety, (they) indulged in the most absurd misrepresentations and unjust criticisms, without waiting to hear the testimony or secure any of the facts in the case whatever."

The minutes of the Meeting of the Board of Visitors of February 2, 1884, disclosed that a member of the General Assembly from Staunton, Mr. John N. Opie, proposed a committee from the General Assembly visit and investigate the Asylum for evidence of gross mismanagement on the part of the present officers. Mr. Opie, who apparently was critical of the administration, was appointed chairman of this committee. According to the Board of Visitors' Minutes, the investigation resulted in "a complete vindication of said officers". Mr. Opie was later a member of the Board of Directors from 1886 to 1888 and served as counsel to the Board for several years thereafter.

The author has written to the Archives Division of Pinkertons Incorporated in New York City, asking for any information they might have. Unfortunately, they have been unable to find any files relating to their findings or conclusions in their archives.

So far, an investigation of the periodicals of that time from this area (The Valley Virginian, Spectator and Vindicator) has failed to turn up any newspapers for the time of the tragedy.

One cannot help but wonder after all these years what actually happened, who was responsible and what the motive might have been.

Editorial Footnote: This anecdote has been grievously abbreviated for a number of reasons. The author's interesting speculation as to a possible basis for poisoning and his description of political repercussions following the poisoning are available in the full text of the manuscript which may be obtained by writing to Dr. Hansen.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Comprehensive Health Planning in Virginia: Public Law 89-749

Legislation (Public Law 89-749) was enacted by the 89th Congress entitled "Comprehensive Health Planning and Public Health Service Amendments" . This legislation declares that "fulfillment of our National purpose depends on promoting and assuring the highest level of health attainable for every person, in an environment which contributes positively to healthful individual and family living."

Under requirements of Public Law 89-749, each Governor must (1) designate a single State agency as the sole agency to administer State health planning functions under this Act and (2) establish a State health council to advise the State agency in carrying out its functions under the "Plan for Planning". Governor Godwin designated the Virginia State Department of Health as the sole agency and in June of 1968, named the Virginia's Health Planning Council, consisting of twenty-three members and three ex-officio members. This Council has participated in six meetings during the 1969 fiscal year.

Duties of the State Health Department include:

a. developing and selecting planning and methodology
b. providing staff assistance to areawide planning groups
c. providing staff assistance to the Health Planning Council
d. reviewing applications for public health and mental health agency plans, special projects and areawide applications, with follow-up recommendations for action to the State Health Planning Council
e. developing an overall State health plan for review of the Health Planning Council

Similarly, duties and responsibilities of the Health Planning Council are to:

a. formulate sub-committees
b. advise State agency as to scope of its planning activities
c. establish planning priorities throughout the State
d. on an annual basis, reviews and approves the State Health plan
e. review and develops comments on all applications submitted to the State agency, including special projects, State public health and mental health plans, and areawide planning proposals
f. maintain liaison between all health agencies throughout the State; this encompasses all levels, including public, private and voluntary

Health Problems

Major health problems confronting Virginia are identical with those of other states throughout the country. These include:

a. maldistribution of health services
b. rising costs of medical care
c. fragmentation of health services
d. severe shortage of health personnel
e. undue emphasis on categorical in lieu of comprehensive health approach

In attempting to resolve these problems, it is essential that we determine "where we are" in the field, then develop a planning methodology for amelioration or solution to such issues.

In Virginia the approach to health and

related medical care from the public spectrum has been based on the premise that a continuum of services involving prevention, diagnosis and treatment are inseparable. As evidence of this statement our Department, in addition to its preventive activities, is administering a wide variety of medical care programs.

A major task is to ensure that planned services actually are delivered to intended recipients and that this is accomplished in the most efficient, economical and effective manner possible.

Also, if we are to achieve this opportunity of improving the health status of all our citizens, it is especially important that we focus on the health needs of the impoverished population of our State.

Interest in area wide health planning at the metropolitan and rural level, where people reside and where health problems exist and must be resolved, has been high throughout Virginia. We anticipate that by the close of the 1970 fiscal year, area wide planning projects covering approximately 65% to 70% of Virginia's population will have been developed and approved by our State Comprehensive Health Planning Council and submitted to the Public Health Service, Region III, for its review and hopefully, ultimate funding.

This program is financed on a 50-50 basis, a local dollar being required to match the Federal dollar. Essentially, this segment of Public Law 89-749 provides a community an opportunity to identify and resolve, through health surveys, its own health problems.

Special Studies

Utilizing the contract mechanism route, we are currently funding three studies:

(1) *A Plan for Delivery of Services to Multiple-Handicapped Children*
(2) *Survey of Medical Laboratories in Virginia*
(3) *Study of Transportation to Medical Care and Estimates of Health Needs in Rural Areas*

It is impossible to predict at this time what new patterns of health care will emerge during the next two or three years. Obviously, we must analyze our health manpower, services and facilities, then equate them with the health need. A health plan should tell us the what, the why, the when, the where and who is to do what to realize the optimum use of health personnel, facilities, and services. Since health needs will unquestionably continue to exceed health resources, comprehensive health planning will play a key role in determining what choices must be made. If they are to be made in a reasonable and intelligent manner, they must be based on a rational determination of alternatives. Planning is not a panacea that will resolve all health problems; however, it is reasonable to assume that a planned approach involving private, public and voluntary providers of health services throughout Virginia will produce an improved, expanded and most importantly, a coordinated system of health care to our State's citizens.

Diagnostic Laboratory Medicine . . . .

M. R. ESCOBAR, Ph.D.
M. J. ALLISON, Ph.D.
H. P. DALTON, Ph.D.

The Laboratory Diagnosis of Enteroviral Infections

Enteroviruses comprise at present a group of over 60 members (polio, coxsackie and echoviruses), all transient inhabitants of the human alimentary tract. Thus, they may be isolated from the throat or feces, or both. They are usually recovered from feces many days after the onset of illness for a period of time longer than that corresponding to throat wash or swab specimens. Some members of this group are more frequently associated with clinical manifestations in infected persons. A number of Group A coxsackie viruses and many of the echoviruses have often been isolated from healthy individuals throughout the world, but rarely from sick individuals. Others may produce a series of clinical syndromes ranging through severe paralysis, aseptic meningitis, herpangina, pleurodynia, myocarditis, skin rash, coryza, and a variety of other manifestations. However, different enteroviruses, as well as nonenteric viruses, may produce some of the same clinical syndromes. On the other hand, the same enterovirus may cause different syndromes under various circumstances. Two enteroviruses may propagate simultaneously in the alimentary tract, but, under many circumstances, multiplication of one virus may interfere with growth of the heterologous type. Interference with the growth of live poliovaccine by other concurrent enterovirus infections is now well established.

The mere isolation of an enterovirus from the alimentary tract cannot be considered of unequivocal etiological significance. Such isolations are more meaningful when correlated with serological findings indicating a significant rise in the specific antibody titer. When the agent is isolated from the blood, spinal fluid, pathological tissue, CNS, and other similar specimens from patients manifesting typical syndromes, its etiological role can be accepted. Epidemiological data from the community and serological evidence from the patient concerned provide the final steps in an established etiology.

Tests for the determination of antibodies are carried out either for clinical diagnosis or for epidemiological surveys. For clinical diagnostic purposes, two samples of serum are required, one obtained as soon as possible after the onset of illness and another two to three weeks later. The relationship of antibodies to infection is indicated when a significant (fourfold) rise in titer is detected in the second sample.

Antigenic components are shared by some of the enteroviruses when neutralization, complement-fixation (CF), or hemagglutination-inhibition (HI) tests are employed. Heterotypic crosses are found less often with the neutralization and the HI tests. The CF test has been widely employed for the diagnosis of poliovirus infections, but has been seldom used for the diagnosis of other enteroviruses because: (1) the frequent occurrence of heterotypic crossings observed makes the test of limited value for type-specific diagnosis, (2) some individuals, especially children, fail to develop homotypic CF antibodies detectable by presently available techniques, (3) it is difficult to prepare a sufficiently potent CF antigen from some isolates by simple techniques, and (4) occasionally nonspecific fixation

of obscure origin may occur. Despite these problems, the CF procedure is still of considerable practical value because: (1) of the time, labor, and expense involved in the neutralization procedures and (2) only about one-third of the enteroviruses produce hemagglutination.

The virus laboratory at the Medical College of Virginia has developed a test using coxsackie B CF antigens of sufficient potency and with insignificant anticomplementary activity. This test will be of some aid, taking into consideration the primary diagnostic rather than epidemiologic objective of our studies. A fourfold rise in titer would suggest, at least, infection with an enterovirus other than polio (if polio CF test is negative), which coupled to the isolation of an agent from feces, throat wash, or spinal fluid could speed up the identification of the isolate. Greater specificity may be ascertained by performing concurrently an HI instead of the neutralization test due to the time, labor, and expense involved in the latter. It is possible that a modification of the CF test might solve some of the problems associated with it. That is, the lack of reactivity in some individuals, especially children with clinical enteroviral infections, may be caused by their sera failing to fix complement, but still reacting with the specific antigen. An indirect CF test using a known positive monkey or mouse antiserum might circumvent this obstacle. Of course, the typical cross-reactions and the emergence of variants (prime strains) among the enteroviruses seem to be insoluble problems.

The fluorescent antibody test might also offer some promise in this respect, since heterotypic reactions associated with it probably do not occur but are currently under study in our laboratory. Now that the summer months are nearing, the incidence of enteroviral infections should increase.

Division of Clinical Pathology
Medical College of Virginia
Health Sciences Division
Virginia Commonwealth University
Richmond, Virginia

Monthly Report of Bureau of Communicable Disease Control

	June 1969	June 1968	Jan.-June 1969	Jan.-June 1968
Brucellosis	—	9	13	23
Diphtheria	—	—	—	—
Hepatitis	41	36	212	236
Meningitis (Aseptic)	—	5	—	2
Meningococcal Infections	7	5	46	27
Poliomyelitis	—	—	—	—
Rocky Mt. Spotted Fever	15	7	24	19
Rubella	388	89	1452	518
Rubeola	20	64	636	283
Streptococcal Sore Throat or Scarlet Fever	989	1043	9178	8444
Tularemia	1	—	2	1
Typhoid	—	1	—	6
Rabies (in animals)	17	9	265	86
Venereal Disease:				
Syphilis	116	153	736	867
Gonorrhea	1054	860	5698	4638
Other	6	—	22	8

The Medical Society of Virginia . . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was held on Sunday, May 25, at Society headquarters.

Members Present: Dr. F. Ashton Carmines, Dr. William Grossman, Dr. Thomas W. Murrell, Jr., Dr. Mack I. Shanholtz, Dr. Harry J. Warthen. Dr. W. Callier Salley, Dr. Raymond S. Brown, Dr. William S. Hotchkiss, Dr. William R. Hill, Dr. George J. Carroll, Dr. F. H. McGovern, Dr. John A. Martin, Dr. James C. Respess, Dr. Carl E. Stark and Dr. Carl P. Parker, Jr.

Others Present: Dr. Robert L. A. Keeley, Second Vice-President; Dr. James M. Peery, Third Vice-President; Dr. W. Linwood Ball and Dr. Allen Barker, AMA Delegates.

Continuing Education and Licensure

Dr. Carmines reported that the Medical Education Committee had met jointly on March 9 with representatives of the University of Virginia School of Medicine, Medical College of Virginia and Virginia Board of Medical Examiners. The relationship of continuing education to licensure was thoroughly discussed at that meeting and a resolution adopted which endorsed the principle of assuring a minimum number of postgraduate education hours as a prerequisite for renewal of license to practice medicine in Virginia.

Dr. McCausland, Chairman of the Medical Education Committee, discussed the joint meeting in some detail and stated that a great amount of research had been conducted following the session. An effort was made to learn whether any state, particularly Oregon or New York, had implemented a program relating continuing education to licensure. It was learned that no states have such programs at this time although some medical societies do require continuing education credit in order to retain society membership.

Dr. McCausland's report was received by Council and discussion invited. It was generally agreed that there is no argument with the wish of the Board of Medical Examiners to assure high quality medical practice in Virginia. It was also recognized that continuing education is becoming more and more important and that all physicians should be urged to participate to the maximum extent possible. There was, however, much opposition voiced to any effort to make continuing education mandatory. The voluntary approach was urged and there were many who believed that The Medical Society of Virginia should assume leadership in this area of activity.

Council was advised that the present system of having a physician licensed for life is under attack in many sections of the country. As a matter of fact, a recent bulletin from the American Medical Association urged state societies to appoint special screening committees just for this purpose. Apparently legislation requiring recertification is being introduced in a number of state legislatures.

It was learned that several component societies have considered the matter at some length and reaction has been varied. Several have adopted strong resolutions of opposition while others have indicated their willingness to tie continuing education to licensure.

Dr. Hotchkiss stated that, in his opinion, the matter actually came down to five possible actions. They were: (1) Endorse the resolution as adopted by the Committee on Medical Education, (2) reject it outright, (3) wait until the Committee can explore the matter further, (4) refer it to the House of Delegates without endorsement, and (5) suggest that other alternatives be considered—such as giving the Board of Medical Examiners broad investigative powers.

Further discussion brought forth the fact that The Medical Society of Virginia has indeed involved itself in continuing education through its interest and participation in the Regional Medical Program. It was also stated that approximately 16% of Virginia physicians do not participate in continuing education programs.

Some concern was voiced over possible public reaction should the Society flatly reject a program requiring and stressing continuing education. A suggestion was made that perhaps continuing education should be related to Society membership rather than licensure.

The Board of Medical Examiners was represented by Dr. W. W. Zimmerman, III, President, Dr. Robert C. Green, Jr., Dr. James B. Hutt, Jr. and Dr. Earnest B. Carpenter. Dr. Green stated that the Board had become interested in the problem in 1967

—principally because it believed it had a definite responsibility to see that quality medical care is provided Virginia citizens. The Board considered a number of possible solutions to the problem—including some form of self-assessment. It soon realized, however, that the problem was extremely complex and that The Medical Society of Virginia might well represent the key. Consequently, the Board requested the Society to consider the matter and assist in finding an acceptable solution.

Dr. Green went on to say that many physicians have given up on the voluntary approach. Government, labor unions and consumer groups are applying considerable pressure and it is becoming more and more necessary for medicine to act in a positive manner if public confidence is to be maintained.

Dr. Salley asked why State license fees—apart from the annual registration fee—were placed in the State's "general fund". It was explained that this is actually a professional license tax and that the Board has no alternative.

At this point Dr. Carmines noted the arrival of Dr. Fred Spencer and called on him to introduce a distinguished guest. Dr. Spencer then introduced Dr. Antonio Aragao, a Past-President of the World Medical Association and the Brazilian Medical Association. Dr. Aragao has also served as President of the Santa Catarina Medical Association and currently holds the position of Secretary of Health and Social Assistance of that Brazilian state.

Dr. Hotchkiss then moved that Council thank the Committee on Medical Education and Board of Medical Examiners for the work they have done in connection with the problem and go on record as endorsing the principle of continuing education. The motion would also have had Council request the Committee to explore other methods of dealing with the problem—particularly with reference to those physicians whose conduct and practice procedures do not measure up to accepted standards.

Dr. Murrell introduced the following substitute resolution:

"Whereas: The Medical Society of Virginia has long been committed to the principle of, consistently encouraged, endorsed, provided for and participated in programs for continuing education for its membership, and

"Whereas: the membership of The Medical Society of Virginia is made up not only of the different specialties, but also rural and urban, hospital and nonhospital practitioners, and

"Whereas: it would be most difficult to have a uniform requirement for continuing medical education to meet the needs of all of the membership without imposing undue hardship on a large portion of the membership, therefore be it

"Resolved: that The Medical Society of Virginia reaffirm its recognition of the great value of continuing medical education for all of its members, and be it further

"Resolved: that The Medical Society of Virginia give careful consideration to formulation of a plan of continuing education for its members as a highly desirable credential for membership and further study ways and means to assure satisfactory continuing education of the profession as a whole."

The resolution was seconded and discussed at considerable length. It was made clear that the resolution neither supports nor rules out the eventual possibility of relating continuing education to licensure.

A motion to close debate on the resolution was seconded and adopted.

Dr. Murrell's resolution was then adopted.

Dr. Carmines expressed a desire to work with the Board of Medical Examiners in developing effective means of handling disciplinary problems. Council supported his suggestion that a special committee be appointed to meet with representatives of the Board and discuss this particular matter. Dr. Carmines requested Dr. Hotchkiss to serve as Chairman of this special committee. Other members will be Dr. William R. Hill and Dr. Raymond S. Brown.

Executive Committee

Presidents of The Medical Society of Virginia, in recent years, have sought the advice and guidance of the Executive Committee more often than any time in the past. The Executive Committee is permitted to serve only in an advisory capacity and a question has been raised as to whether it should be given a stronger voice where policy and decision-making are concerned. This would require an amendment to the By-Laws.

Dr. Carmines stated that Society Presidents need assistance from the Committee more and more each year and that an Executive Committee with power to act could very well be a definite asset. The feeling was expressed, however, that a change such as proposed should be carefully considered before any thought be given to amending the By-Laws. There

were also those who believe that the By-Laws should be changed in such manner as to provide better representation where Council is concerned. This would mean a restructuring of the By-Laws particularly as they concern the various Districts.

It was agreed that no action should be taken on the Executive Committee at the present time.

Tumor Registry

Consideration was given the following resolution submitted by the Norfolk County Medical Society:

"WHEREAS: the control of cancer in a state and a community is dependent upon the gathering and constant updating of relevant and accurate information concerning each individual case of cancer; and

"WHEREAS: such information is best collected and analyzed through the medium of a systematic tumor registry conducted according to the standards of the American College of Surgeons; and

"WHEREAS: such a registry does not exist to serve cancer control in Tidewater Virginia or to serve the Commonwealth of Virginia as a whole; therefore be it

"RESOLVED: that the Norfolk County Medical Society petition the Virginia Regional Medical Program to request funds for a statewide tumor registry as part of its operational grant; and be it further

"RESOLVED: That this petition be submitted to The Medical Society of Virginia for endorsement and active support."

It was learned that although the Department of Health has operated a tumor registry for some time, it is sympathetic to the proposal that such a registry be considered as a project for the Virginia Regional Medical Program. The Regional Medical Program was reported to be definitely interested in such a project. There was some question as to whether a registry sponsored by the Regional Medical Program would have the assured continuity it requires.

Dr. Hotchkiss then moved that Council endorse and support the resolution of the Norfolk County Medical Society. *The motion was seconded and adopted.*

Departments of Family Practice

The Executive Committee, in a meeting on March 28, recommended that The Medical Society of Virginia endorse the establishment of Departments of Family Practice by our State medical schools with the understanding that they would be granted the same status as all other Departments.

It was moved by Dr. Stark that Council approve the recommendation of the Executive Committee. *The motion was seconded and adopted.*

Medicaid

Dr. Carmines recalled that when Medicaid was first considered by The Medical Society of Virginia, there were two points which were always stressed—(1) free choice of physician, and (2) the right of the physician to bill direct. He then referred to a resolution adopted by the House of Delegates in October, 1967 which stated ". . . that The Medical Society of Virginia will not accept a program for payment of physicians' fees for the recipients of the Title XIX program that permits payment only by assignment".

During the ensuing discussion it was brought out that the 1967 resolution had been adopted before a great deal was really known about the workings of Medicaid and the guidelines under which it must function. Also brought out was the fact that Medicaid is designed to be essentially a computer program and contains no provisions for making payments directly to patients. The need for simplifying administrative procedures was emphasized and the thought advanced that there is actually nothing new about having the physician paid by the fiscal intermediary. This is considered standard procedure in many programs based upon "need".

Dr. Grossman stated that a number of complaints had been received with reference to Items 3 and 6 of the Physician Participation Agreement. The key word in Item 6 is "administrative" and is said to have nothing whatever to do with professional policies or practices.

Dr. James Kenley, who is directly concerned with Medicaid, and Mr. Thomas Martin, Blue Shield of Virginia, both assured Council that the Physician Participation Agreement is meant in no way to handicap or work a hardship on any physician. The provisions in question are actually meant to simplify the claims process for the physician and also provide the necessary "built-in" safeguards against possible fraud and unusual claims. It was also mentioned that Item 6 applies mainly to the use of the standard claim form and a special booklet is being prepared which will answer most of the questions physicians have been asking.

Council was then advised that at least two component societies have stated flatly that their members will not sign the Physician Participation Agreement until acceptable answers are forthcoming concerning Items 3 and 6.

A question was then raised as to what actually constitutes an "assignment". It was pointed out that physicians receive payment directly from Blue Shield under the 7510 Plan. It was explained that an "assignment" per se means that the patient signs over to the attending physician the right to have his fee paid directly by the carrier or intermediary.

The thought was then expressed that perhaps Medicaid as presently set up is not in conflict with the 1967 resolution after all. It was further brought out that since Medicaid is based upon "need", the patient actually has no claim to the money paid for fees.

Recognizing that Council should not act contrary to a directive of the House of Delegates, Dr. Stark moved that a final decision on the matter of direct billing be left to the House of Delegates in October and, in the interim, physicians should feel free to participate in Medicaid in accordance with current procedures. *The motion was seconded and adopted.*

A motion was then offered by Dr. Murrell which would recommend that Item 3 of the Physician Participation Agreement be amended to read as follows:

> "The physician agrees to keep such records as are necessary to fully disclose the extent of the services provided to individuals receiving assistance under the state plan. The physician will furnish the state agency with such information, regarding any payments claimed for providing services under the state plan, as the state agency may find necessary to substantiate unusual claims."

The motion was seconded and adopted.

A suggestion was also made that Item 6 of the Physician Participation Agreement be omitted entirely. No official action, however, was taken.

Annual Meeting

Council was advised that considerable interest has been expressed in having the Society meet at least every other year at Williamsburg. Our next meeting at that location will be November 5-8, 1972.

Dr. McCausland expressed the hope that Roanoke would be retained as a location for the Annual Meeting and Dr. Respess indicated that Charlottesville would also be most pleased to have the Society meet there. Dr. Respess indicated that additional facilities were being constructed in Charlottesville and that the next few years might make all the difference. At the present time, however, it would not be possible for the entire meeting to be held under one roof.

Dr. Murrell then moved that the House of Delegates be requested to consider the advisability of holding the Annual Meeting alternately in Roanoke and Williamsburg. It was also understood that the Society would definitely meet in Roanoke in 1973 and in Williamsburg in 1974. *The motion was seconded and adopted.*

Dr. Hill reported that the Program Committee had expressed the hope that future Annual Meetings be held in locations permitting simultaneous scientific sessions. The Committee encounters considerable difficulty when restricted by a lack of adequate facilities.

Osteopathy

The Alexandria Medical Society has requested an expression from The Medical Society of Virginia with reference to membership of osteopaths in local and state medical societies. Although the matter of hospital privileges for osteopaths has been left entirely to local hospital staffs, the thought exists in some areas that staff physicians should hold local society membership.

Following considerable discussion, a motion was introduced by Dr. Murrell that The Medical Society of Virginia make no change in its present membership requirements. These requirements state that "Physicians in Virginia, not practicing sectarian medicine, and members of a component society, shall be eligible for active membership. . .". *The motion was seconded and adopted.*

Society Mission

Dr. Carmines reported on a joint meeting of the Executive and Finance Committees held in Williamsburg on May 23. The two Committees met for the express purpose of reviewing Society activities and determining what its future course of action should be. The Society's financial status was also reviewed.

Out of this meeting came a recommendation for Council that an ad hoc committee be appointed for the purpose of conducting an organizational review and planning a future course of action with reference to activities, objectives, etc. The committee would also determine whether, in its opinion, a formal study and survey should be carried out by a profes-

sional management and consultant group or other qualified individuals. A suggestion was also made that consideration might well be given to having a permanent committee established for the purpose of meeting at least once each year to review the Society's activities, objectives, etc.

Dr. McGovern then moved that an ad hoc comittee be appointed in keeping with the recommendations of the Executive and Finance Committees. *The motion was seconded and carried.*

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:
F. ASHTON CARMINES, M.D.
President

OSTEOGENIC SARCOMA—

Alexander Kalenak

(*Continued from page* 443)

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Miscellaneous....

Excerpts from the Monthly Surgery Committee Meeting, the Memorial Hospital, Danville, March & April, 1969

Case of the Month

The patient is a 55-year-old white female who initially was seen with carcinoma of the endometrium. She was first treated with Hayman capsules and received approximately 5,000 roentgens. This was followed with 5,000 rads to the pelvis utilizing cobalt. The patient did fair for approximately a year. During this time, however, she did develop diarrhea and intermittent abdominal pain. The patient was admitted to the hospital because of these symptoms. Barium enema revealed an incomplete obstruction at the sigmoid. An exploratory laparotomy was performed. The exploration revealed a sigmoid colon which was white, thickened and had a very poor blood supply. A sigmoid colostomy was performed. Postoperatively, she again did poorly and had episodes of crampy abdominal pain, vomiting and developed a small bowel obstruction. One week after her initial surgery, she was reexplored, and a large portion of the small bowel was resected and an anastomosis was made to the transverse colon. She improved after this procedure. However, after three to four weeks, she developed necrosis of the abdominal skin, a fecal fistula at the site of the anastomosis, and eventually died from sepsis. Histologic investigation of the resected bowel revealed extensive radiation necrosis.

Dr. Navin: This case illustrates the complexity of dealing with radiation necrosis of the bowel. This patient was handled superbly as far as her surgical approach to the disease is concerned yet had an undesirable outcome. Before continuing with the discussion of this case, I feel that I should give a brief summary of several cases which I am familiar with so we can discuss a spectrum of treatment for radiation injuries to the small and large bowel.

(1) The first case was a 67-year-old white female with carcinoma of the ovary which was resected surgically. Omental implants were found at laparotomy and an omentectomy was undertaken. Postoperatively, the patient received 3,700 roentgens from a cobalt source and 15 millicuries of P-32 into the peritoneal cavity. She developed a number of symptoms during her cobalt therapy including nausea, vomiting, and diarrhea and required three to four months to adequately recover from this treatment. Approximately six months after her surgery, she was readmitted to the hospital with an acute surgical abdomen and was found to have free air under the diaphragm. Extensive abdominal exploration revealed a perforation of the midileum. Because of the massive thick adhesions and the length of the procedure, the perforation was closed by sewing an adjacent loop of small bowel over the purse stringed perforation. Postoperatively, the patient did fine until about the 12th day when she again developed acute abdominal symptoms and died of sepsis approximately five days later. Postmortem examination revealed extensive radiation necrosis of the small bowel with disruption of the initial perforation closure.

(2) The second case is one of radiation necrosis with perforation following two series of cobalt therapy 18 months apart. The treatment dosages were 3600 and 2400 Rads respectively. The patient was treated

by resection and primary anastomosis and had an uncomplicated postoperative course.

(3) Three cases of distal small bowel obstruction, one was approximately 20 years after irradiation, the second was 10 years after irradiation, and the third was approximately four months after irradiation, were treated by ileotransverse colostomy utilizing a segment of ileum which did not demonstrate any radiation changes. All patients recovered from the procedure and had an uncomplicated postoperative course.

Dr. Donelson, do you have any comments to make about this entity?

Dr. Donelson: I recently had a 62-year-old white female patient who was approximately 10 years post-irradiation for carcinoma of the cervix. She was admitted with intermittent small bowel obstruction. Small bowel x-ray including follow-through studies demonstrated an area in the distal ileum which was partially obstructed and contained a large quantity of undigested food. The patient underwent abdominal exploration. At surgery, a portion of the distal ileum demonstrated extensive radiation changes. This loop of ileum was attached to the dome of the bladder by thick adhesions. An ileotransverse colostomy utilizing what appeared to be normal proximal ileum was undertaken. Postoperatively, the patient had a complicated course, and developed a fecal fistula at the site of the anastomosis. After approximately two months, the wound closed by secondary intent, and the patient has done well since then. In retrospect, I feel that the procedure undertaken was the correct one since a more extensive procedure would have required an ileotransverse colostomy following a right colectomy, and I feel that the problems encountered at the site of anastomosis would have been similar.

Dr. Nevin: It is of interest to me that Dr. Donelson should mention that the portion of ileum involved was adherently attached to the dome of the bladder. In my experience, that portion of the small bowel involved, in every case but one has been intimately attached either to the brim of the true pelvis or to the bladder.

I would like to add that excision of the distal ileum with an ileoileal anastomosis is quite hazardous. The reason is that the distal six inches of the ileum is intimately attached retroperitoneally and receives a large quantity of x-ray during pelvic radiation. In one patient in which this was tried years ago, the patient developed a complete breakdown of the anastomosis and subsequently succumbed to sepsis. I have found it most difficult in determining how much radiation damages have taken place by visually examining the bowel.

Dr. Mallare: I would like to add to this collection of cases an experience of mine. This particular patient was late middle age and had been admitted to the hospital with intermittent small bowel obstruction. At abdominal exploration, she was found to have radiation changes in the distal ileum causing obstruction. In this case, I undertook an ileotransverse colostomy, and the patient had an uncomplicated postoperative course and is presently doing well.

Dr. Stoneburner: It seems to be my distinct impression that since the advent of cobalt, we have seen a higher incidence of irradiation damage to the large and small intestines. In the past, using orthovoltage techniques, the patient's skin has served as our indicator of irradiation intensity. With the use of cobalt and high voltage machines, we no longer have this indicator, and I seriously wonder if these patients aren't receiving a good deal more radiation than we believe. It is hard for me to understand how patients receiving 3700 roentgens to the abdomen can be presenting with radiation necrosis of the small bowel, perforation, obstruction, etc.

Dr. Baggerly, do you wish to say something concerning the techniques utilized by your department to prevent these type of complications?

Dr. Baggerly: In radiotherapy to any part of the body, normal tissues must inevitably be included in the irradiative volume. Consequently, we are constantly faced with the problem of delivering a cancericidal dose of irradiation to the tumor while simultaneously causing as little damage to the normal tissue as possible. Tolerance of the normal tissue have been determined more or less empirically.

In the pelvis, the organs most susceptible to irradiation injury are the rectum, rectosigmoid, and sigmoid colon. Frequency of injury to these and other structures is dosed dependent. In other words, the distribution of the radium, its proximity to the pelvic organs, total dose from the radium and external therapy, and the degree of protraction of the therapy are all factors on which the occurrence of irradiation injury depend. There are two types of large bowel reaction. These are the early acute reactions and the chronic late reactions. The early reaction is to be expected with modern therapy and occurs near the end of therapy. It is manifested by diarrhea, tenesmus, and sometimes minor hemorrhage. Direct examination reveals an edematous mucosa with small bleeding points. Reaction is usually effectively controlled by a low-residue diet and paregoric. The chronic late reaction is much less common and usually appears six to 24 months after therapy. Todd has divided these reactions into two groups—the limited intrinsic type and the diffuse extrinsic type. The intrinsic type appears as an area of ulceration on the anterior wall of the rectum at the point of maximum dose in the rectovaginal septum. Inadequate packing, uterine retroflexion, narrow vagina, or incorrectly positioned vaginal radium sources may be contributing factors. The extrinsic reaction is less frequent and appears as a woody induration encompassing a segment of rectum or sigmoid. The etiology is unknown but thought by some to be related to late vascular occlusion. There usually is some degree of obstruction and may require a colostomy. In both these types of late reactions, there is usually severe diarrhea, tenesmus, and bleeding except in cases where the whole abdomen has to be irradiated or limited portions of the small bowel are included in the treated volume. Mobility of the small bowel will generally prevent any one segment from getting an excessive dose. However, previous surgery with its resulting adhesions may drastically alter the situation. The incidence of small bowel injuries have sharply increased in those patients irradiated after previous abdominal surgery. The late postirradiation changes in the small bowel consist of progressive fibrosis associated with marked edema. The mucosa may ulcerate and stricture and obstruction may follow. Surgical relief of the obstruction is usually required. The urinary bladder has a somewhat higher tolerance to radiation than does the large and small bowel. During the treatment of pelvic malignancies, one may see some degree of acute cystitis and more rarely, after one to four years, late irradiation cystitis may appear. The late changes consist of interstitial fibrosis with obliterative endarteritis and telangiectasia. The epithelium is pale, thin, atrophic, and may ulcerate and bleed.

The ureters have a very high radiation tolerance, and irradiation injury to them is exceedingly rare despite the fact that they lie about 1½ cm. from the lateral vaginal fornix and routinely receive doses in excess of the cancericidal range.

Intercavitary Therapy

The indications for the use of intercavitary therapy with radioactive cobalt are to control malignant effusions and to use prophylactically in cases of carcinoma of the ovary which are surgically resectable with or without fluid or very small implants.

Today, either A-U 198 or P-32 are used.

P-32 is a pure Beta omitter and consequently requires much less specific radiation precaution than A-U 198. This advantage is outweighed however by its long halflife and the fact that it is colorless. Because of the long halflife of 100 days, it takes many days to deliver its full dose of radiation.

A-U 198, on the other hand, has a short halflife of 19 days and has a distinctive color that is easily seen on dressing or bed linen if it should leak from a wound. It is primarily a Beta omitter but does have a gamma component which leads to some radiation protection problems. In any intercavitary therapy, it is important that even distribution be obtained. This can be accomplished by turning the patient every 15 minutes, the use of a rocking bed, or the use of shock blocks to alternately raise and lower the ends of the bed. The presence of adhesions is a serious problem because most of the isotope is placed in a small cavity and extremely high radiation dose may be delivered to a normal structure. Following intercavitary isotope therapy, there will usually be a mild drop in white blood count after one or two weeks and mild anorexia and nausea often occur. A pleuritis in the chest or a serositis in the peritoneal cavity with extensive adhesions may occur. These adhesions like any others can lead to intestinal obstruction.

Dr. Deyton, why do the various pelvic organs respond differently to identical dosages of irradiation?

Dr. Deyton: As Dr. Baggerly has said normal tissues are inevitably included in any radiation therapy program. Selective (or semi-selective) destruction of neoplastic tissue forms the basis of Therapeutic Radiology. Cell death, or disruption of replication with isolation and/or eventual cell death, is the aim of radiation therapy. Radiobiological studies have shed considerable light on the problem and show many parameters of it.

A detailed explanation of these parameters is beyond the scope of our current discussion. I think we can say that unrepaired radiation induced changes in the genetic material or DNA are the dominant causes of cell death. Local tissue conditions (degree of oxygenation, vascularity, etc.) presence of radiation potentiating agents ("radiomimetics") radiation protecting agent etc., all have an effect. Enzymatic considerations are probably important but as yet are not totally understood.

Perhaps the cells of the G.I. tract are much more biologically active ("viable") than other cells (ureters, urinary tract, etc.) and thus they are more radiosensitive, with this explaining the difference in radiation tolerance.

Dr. McLelland, is it your impression that there have been more serious intestinal complications since the advent of cobalt radiation therapy for gynecologic malignancy in this hospital?

Dr. McLelland: In the early days of supravoltage radiation therapy many radiation therapist realized that the lack of significant skin changes (erythema) would present some problems in dosage considerations and to some degree this remains today particularly in respect to individual variations. However, most treatment plans have evolved bearing this in mind with allowance for a reasonable margin of safety for normal tissue and adjacent organs. Nevertheless, it is my impression that cobalt radiation therapy places greater demands on the radiation therapist and requires more meticulous attention to details in treatment planning, performance, and followup to produce superior results particularly in terms of complications.

Some of the fundamental problems are:

(A) Many radiation therapy patients are referred to the radiation therapist with a preconceived notion regarding management and not for consultation and/or management purposes. Our tumor clinic has helped correct some of this.

(B) There should be closer liaison and more active communication between the referring physician and the radiation therapist particularly with atypical problems, variations from generally accepted methods particularly in respect to time-dose considerations, and any other extenuating circumstances.

(C) There are varying degrees of interest in radiation therapy and meticulousness in carrying it out especially amongst general radiologists. We have attempted to minimize this by the assumption of overall supervision of the radiation therapy division by a single radiologist with a special interest in this field. Nevertheless this remains a problem begging for a more optimum solution, possibly a full time radiation therapist.

Dr. Sprinkle, do you have any comments on the surgical approach to this condition?

Dr. Sprinkle: The surgical treatment of the intestinal complication of the pelvic irradiation remains a distinct challenge. Pathology encountered varies from frank necrosis of the bowel wall with leakage and peritonitis to the more chronic forms of bowel stenosis with intestinal obstruction. In the former group, abdominoperineal resection has been shown to produce a greater salvage rate when surgery is technically feasible. In the latter group, I prefer anastomotic bypass surgery. Of course, combinations of the above may well occur in the same patient—that is frank necrosis and obstruction, as well as fistulous tract formation, and these cases must be carefully individualized. As in any major surgical problems, the preoperative preparation must be as complete as the urgency of the situation will allow in terms of restoring blood volume, correcting electrolyte imbalances, and preparation to the bowel. If at the time of surgery, bowel anastomosis is performed, either following resection or bypass, the area of bowel chosen for anastomosis must be carefully selected. A loop of bowel although appearing quite viable and capable of sustaining and allowing healing with suture line, may already have significant compromise of its blood supply due to the inexorable obliterative vascular changes due to irradiation. As surgeons well know, early fistulous formation as well as long term breakdown of suture lines is a definite risk in such cases. Hopefully, with a further refinement in radiation technique, these complications will be prevented.

Dr. Morrison: It should be emphasized that patients with actinic enteritis most often have extensive small bowel adhesions. As the years progress, these adhesions become thicker and more difficult to deal with. In some patients, these can be so severe that the free peritoneal cavity has been completely obliterated. These adhesions often make surgical approach to the radiation complications of the intestines most difficult. It is the feeling of many pathologists that these adhesions are due to penetrating ulcers of the small intestine.

Dr. Nevin: Two publications concerning actinic enteritis have recently been in the literature. Fifty-four cases of irradiation injury to the bowel was reported from the University of Toronto. In their series, two to five per cent of patients receiving pelvic radiation developed these complications. The average interval from the end of irradiation to onset of symptoms was 17.3 months and the mortality rate was 19 per cent. Their study revealed that patients who developed their complications early did better with resection of the involved intestine rather than attempts at bypassing the involved intestine. The high complication rate in the latter was due to the breakdown of the anastomosis and fistula formation from the involved segment. The report from the Mayo Clinic concerned 34 patients. In resections involving the small bowel, the aver-

age length of resection was 52 cms. The majority of their problems, since resection with a treatment of choice, was at the site of anastomosis where breakdown was not infrequent. Their mortality rate was around 15 per cent.

I believe from our discussion of this problem that certain recommendations as to surgical treatment can be advised. For those patients suffering from actinic enteritis and its complications during the first two years after completion of the therapy, the following procedures should be utilized:

(A) For irradiation necrosis of the rectum and distal sigmoid, a Miles' resection and sigmoid colostomy should be the treatment of choice.

(B) For patients suffering from small bowel obstruction or small bowel perforation, the treatment should consist of excision of the entire diseased portion of the small intestine and an ileotransverse colostomy.

In those cases of actinic enteritis with symptoms developing two years after radiation, the following is recommended:

(A) For those patients with intermittent or partial small bowel obstruction secondary to stenosis of the lumen, the procedure of choice is an ileotransverse colostomy.

In those cases in which extensive adhesions are found, I believe it is most important to lyse those adhesions and resect that portion of the small bowel which is involved with these extensive adhesions in order to avoid postoperative small bowel fistula formation.

JAMES E. NEVIN, M.D., *Chairman*

Second National Conference A.M.A. Committee on Nursing

The second National Conference of the A.M.A. Committee on Nursing for representatives of State Medical Societies Liaison Committees with Nursing was held on April 11-12, 1969, in Chicago. Forty-four state representatives met with members of the committee and its panel of nurse consultants. The theme of this conference was: "Meeting the Challenge of Change in the Delivery of Health Care Services".

The keynote address was given Friday evening by Dr. Darrell J. Mase, Ph.D., Dean, College of Health Related Professions of the University of Florida. The title of his presentation was "Tolerance for Turbulence". He pointed out that drastic changes must be made in our Colleges and Universities if we are to meet and deliver the health services demanded. Dr. Mase stated: "Tradition is our greatest deterrent to change, and tradition exists in our education and health institutions as well as in the people who make up the institutions. We are going to have to do a far more imaginative and aggressive job on renewing, redesigning, and revitalizing our institutions if we are to meet the requirements of today."

Dr. Mase further charged that the physicians have been assigning more and more responsibilities to nurses and, "it is time for nursing as a profession to determine levels of functioning and preparation . . . if organized medicine and organized nursing see new roles which can and should be performed by nursing, then such patterns should be fed into the academic factories so they will begin to produce products for improved delivery of health care.

"The registered nurse should not be a ward clerk or perform trivial duties which can be delegated to an individual with much less training.

"There are three independent factors in any health career program: (1) Student selection, (2) the educational program, and (3) the performance levels necessary to perform the various duties and responsibilities," Dr. Mase stated.

On Saturday, April 12, the participants in the conference were divided into four discussion groups. Each group being chairmanned by a member of A.M.A. Committee

on Nursing. The following topics were discussed:

1. *Consider causes which demand changes in the delivery of health care services:*

   A. Increased population and increased patient demand are significant factors. In the year 1900 the population of the United States was about 75 million people. By 1968 we had passed 200 million, or an increase of 125 million in 68 years, all demanding more and better health services.

   B. The enactment of Medicare and Medicaid legislation by the Federal Government, as well as the participation of Health Insurance carriers and other third party groups has altered the pattern of delivery of health care services.

   C. Advancement of Science and Technology require constant changes in personnel and administration. As new methods of diagnosis and treatment are brought into the armamentarium of health care, more and better informed personnel are required to utilize and provide the public with these facilities.

2. *Delineate the shifting role of physicians and nurses:*

   It was concluded that the physician-nurse relationship has not basically changed. However, it is now imperative that the health delivering unit work as a team with the physician being the captain; in his absence the qualified R.N. must take over and delegate chores of lesser importance to those who are not so highly trained.

3. *Consider education required to prepare nurses for changing role:*

   Nurses throughout the nation are endeavoring to upgrade the nursing profession. This move is highly commendable. With the advancement of specialized medicine there is a necessity for specialized nursing services. The cardiac case needs and must have a different nursing approach than the pediatric or psychiatric patient. It is high time the nursing profession establish levels of proficiency and responsibilities commensurate with the education and training each individual nurse has attained.

   The medical profession must recognize these levels of service and cooperate in understanding and establishing with the nursing profession better liaison in the delivery of health care services. Likewise there must be better liaison between the institutions of higher education and nursing schools. All phases of nursing school programs should receive recognition and be given credit for, should the individual nurse desire to further pursue her education to attain a masterate or even a doctorate degree in nursing.

   The A.M.A. Committee on Nursing endorses and encourages all types of nursing programs, fully realizing that from all types of nursing education it is going to be almost impossible to supply sufficient nurses to keep progress with the "changing times" which is making the deliverance of health care services one of the greatest undertakings of modern times. It is "Big Business".

4. *Encourage State-Wide Conferences based on the National A.M.A.-A.N.A. Conferences:*

   Lack of communication and misunderstanding between the medical and nursing professions has created many unnecessary and unfortunate controversies. Nursing is a profession and should be treated as such. Many of us remember when an I.V. fluid was

(*Continued on page 496*)

Woman's Auxiliary....

Are Today's Teenagers Going to Pot?

The sad answer is many are! Pot or marihuana is not by far the only drug being misused. This super-sophisticated culture wants to be somewhere and in order to get there has reasoned they must take a "trip". Illicit drugs are an underground commodity due to stiff penalties and general disapproval by the "Establishment". PR DOCTOR writes that "manifestations of their recent outcropping into popularity are everywhere: offbeat inducements to pseudo highs with crashing cacophonous rock music, violently colored strobe lights, sly references to drugs in names of mod boutiques, discotheques and combos, titles and lyrics of pop tunes, folk songs and poetry and often open espousals of ecstatic trips by well publicized drug advocates", in the article "Doctor's warn: Keep off the Grass". An innocent sugar cube can be the ticket for a "trip" when spiked with LSD. The empty airplane glue tube could be the wings a ten year old uses to fly. It has been estimated that as many as *50 per cent* of the teenagers have tried marihuana at least once.

Where Does It Start?

Acceptance of a marihuana cigarette by the teenager and suddenly the classroom problem, tests and so on disappear in the clouds of smoke. Sometimes as early as *ten* glue sniffing, sprays, later on perhaps marihuana super-charged with an amphetamine "chaser" all the way to the "mainline" with injections. Red streaks up the arm have become a status symbol with some teenagers; so much so that they have experimented with injections of diluted peanut butter—there is not much of a "high" but "whole lot of status".

Why Addle Their Brains?

Escape, experimentation and the desire to be "in" have been advanced as whys, but it stands to reason one or two words cannot pinpoint the dilemma. JAMA in a recent editorial noted that the greater proportion of users may be introduced to marihuana from the desire to be "in" as well as demonstrate independence from a generation who have chosen alcohol as their drug. Drinking and taking of drugs may be classified as "chemical comforters" in the pharmacological sense. From a social and cultural viewpoint they are quite different. Drinking is a widespread custom in our society. Drug dependence is not.

Drug arrests in Chicago suburbs, Washington, D. C. suburbs and many, many other cities were up *300 per cent* in 1968. Teenage deaths are being linked to drug abuse. This paragraph could fill pages with the stories of human misery induced by drug misuse. Let it suffice to say that it is a bad scene.

What to Do?

Youth has no real desire to bring tragedy upon themselves. Todays youngsters need a driving, convincing message on the perils of drug abuse. They need facts delivered in a straight forward manner. Programs have been launched by many medical societies and by other professional organizations. "The Drug Abuse Program" may be obtained from the national auxiliary headquarters. It contains a procedure guide, fact sheet, resource list and informative booklets, the drug abuse folio includes a drug reference chart, two speeches (one aimed toward students and one for adults), and a listing of a large selection of films and news releases that have appeal for both groups.

The youth may be reached by approaching the solution to their problem in a sound intelligent way by discussing the facts in

terms clearly understood without moralizing and combine the above with competent well-run enforcement of the law. Ways should be found to make their lives more exciting and meaningful without resorting to drugs.

One community recognized their problem and met it with specific programs. One doctor projected slides illustrating drug addiction deaths withholding none of its horrors. Young former addicts told their stories and answered written anonymous questions. Adults were informed in a pamphlet the signs and symptoms which could be observed in their children if on drugs.

The problem is with us here and now—today! It is partly attributed to a communication gap. As physician's wives there is a very definite role open to us. Progress is being made, but there is so much to be done. The road from "nowhere" is alternating its course to "somewhere". Initial steps on a long journey (no "trip").

Mrs. Hans J. Klapproth

MISCELLANEOUS

(*Continued from page* 494)

started only by the physician. Blood pressures were taken by the R.N. and many other items too numerous to enumerate have been transferred from the physician to the registered nurse —then to the licensed practical nurse and on to the nurses aide. It is suggested that State and local conferences be held that better liaison may be developed between the medical and nursing professions; that these professions be leaders in promoting organized team performances with the assistance of all ancillary personnel in meeting the demanded changes in the delivery of health care services. Continuance of educational programs by all agencies involved in health care services is essential. We are of the opinion the delivery of health care services in the United States is the best in the World. Let's keep it that way!

W. N. Thompson, M.D.
Chairman Liaison Committee of
The Medical Society of Virginia
to Organized Nursing.

Editorial....

MCV and the Nursing Crisis

AT LEAST FIVE OR SIX EDITORIALS concerning nursing have appeared in the Virginia Medical Monthly during the past decade. Two years ago a thoughtful article by Dr. Christian V. Cimmino, a member of the Editorial Board, entitled "The Dilemma of Nursing", began: "The following, almost incredible statement in reference to the training and shortage of nurses, made to the author by a dean of a collegiate program of nursing, symbolizes the rift between the professions of medicine and nursing: 'I am sorry we cannot anticipate physicians' working with us for the improvement of patient care, especially with a willingness to look at all sides of the picture.' "

Dr. Cimmino pointed out that "The rift between the two professions stems largely from differences in opinion as to the education and training of nurses. Most grassroot physicians still believe that the hospital training school produces the best bedside nurse at the lowest cost. Organized nursing, as represented by the American Nurses Association . . . favors the campus for her training with large doses of liberal arts. The trend is clearly in this direction, and it is the expressed purpose of a large segment of organized nursing to do away with most other kinds of nursing programs, including the time-honored effective hospital school."

Dr. Cimmino also thought an excessively high required level in nursing led to several ill effects, which included fewer applicants due to the cost and prolonged preparation and fewer nurse-practice years available to the community because of this longer preparation. He also made the cogent observation that "Nurses so trained tend to abandon the bedside and to enter administration, teaching, public health, or psychiatry, either from appreciation of their own inadequacies at the bedside or because of their discontent with the unavoidable day-to-day routine of much hospital practice. Many young people who give promise of making excellent nurses . . . are dropped by the wayside of a rigorously oriented academic program." The end result was fewer nurses at a time of desperate need.

Dr. Cimmino was taken severely to task for his temerity in poaching on what the nurses felt was purely feminine territory, and he was invited to appear before a group of nurses to answer for his heresy. He wisely declined to step within the cage, but both he and the Editor invited the spokesman to use the pages of the journal as a forum for the presentation of her philosophy concerning nursing and possible remedies for its outstanding needs. We were told that considerations of time precluded an article in the Virginia Medical Monthly.

In January 1968 two articles appeared in the journal concerning nursing. The guest editorial was written by a hospital staff nurse who pointed out that approximately 70% of all nurses fall into the category of hospital staff nurses and they constitute the backbone of nurses who take care of the sick. Despite this preponderance, the nursing educators have

increasingly taken over the role of representing the nursing profession in America. The inference was that nursing educators, and especially those associated with the medical schools, exercise too much influence—and not always for the better—on present-day nursing.

The writer of the present editorial was in complete accord and so stated in the same issue of the journal. It seemed to the writer that the educators were primarily interested in training the Chiefs but there was relatively little concern as to how many Indians were provided to staff the hospitals. In other words their desire extended only to teaching nurses, who in turn would teach other nurses, but there was no effort to check on the end product as to whether an honest-to-goodness nurse emerged who felt it was not beneath her dignity to treat the ill. The editorial was described in educational circles as "facetious" and nothing further happened.

Though the mills of the God's grind slowly, they grind exceedingly fine, and it came to pass on May 18, 1969, the Medical College of Virginia was forced to halt all elective medical and surgical admissions due to a shortage of nurses. The Chiefs were still there but the Indians had gone.

Further closing of wards continued and at this writing about 100 beds cannot be staffed. Patients who formerly would have been taken to the Emergency Room of the MCV were routed to the Richmond Memorial, Johnston-Willis or St. Mary's Hospital. This influx of unexpected patients, especially in the Emergency Rooms, has thrown an extra burden on these hospitals, but the innocent have to suffer with the guilty. The patients who require treatment during this period doubtless are cared for elsewhere, but some of the members of the medical and surgical staff at the MCV must feel the pinch.

The immediately underlying causes are hard to pinpoint. Furtive, scribbled notes thrown over the wall are helpful, but do not tell the whole story. A few years ago the nursing salary scale was higher at MCV than in the majority of area hospitals but recently it has lagged behind. The salary scale in the nearby McGuire V.A. Hospital is considerably higher. The MCV hospitals are not situated in the most desirable part of the city and nurses do not relish making the trip to and fro after dark. There is no provision for parking space for nurses. Special concessions to nurses with small children are absent at the MCV although nurseries for the infants of nurses on duty are provided in some of the other Richmond hospitals.

A considerable number of nurses are sequestered in special sections and participate in various grants and projects. This prevents them from aiding in bedside nursing. A letter to the Forum of one of the Richmond newspapers, by the Director, School of Nursing, Academic Center, Virginia Commonwealth University, makes veiled references to "the day-to-day frustrations that derive from poor working conditions and personnel relationships". That spells low morale whatever may be the cause. Lack of rapport between the medical and nursing staffs, which has been none too good in the past, has now reach a new low.

Whatever the causes may be, and there doubtless are many, it is essential that they be remedied; for the present crisis is a hazard to the public,

a hardship on the medical and administrative staffs and a reflection upon the nursing service.

H.J.W.

Syphilis—An Ancient Enemy Grows Weaker

OLD, OLD-ARSPHENAMINE HANDS may grow reflective at the steady decline in reported cases of syphilis and perhaps be permitted a backward glance at the events of yesteryear.

A dramatic campaign against venereal disease, and especially syphilis, was initiated in the mid-1930's, reaching its greatest intensity during World War II. It was then that D. C. Smith at the University of Virginia pioneered contact tracing which led to substantial improvement in case-finding and in the treatment of a higher proportion of infected individuals. It was also during this period that a rapid treatment method with arsenicals and bismuth was devised, considerably shortening the then lengthy therapy, and resulting in fewer patient losses with consequent relapse and infectivity. Local, State and Federal public health services slowly and progressively took over the field of venereal disease case-finding and treatment, the latter through operation of rapid treatment centers. Public health authorities at all levels further reinforced their claim to the field through a set of circumstances which included Mahoney's introduction of penicillin treatment of syphilis and the venereal disease problem as it evolved during World War II, within both the Armed Forces and the civil population.

The introduction of penicillin therapy provided a more rapid method of treatment (at that time around 8-15 days) with a relatively nontoxic substance, which, as it subsequently appeared, resulted in sterilization of surface lesions within twelve hours, a low incidence of relapse of early lesions and considerable effectiveness toward prevention of the late consequences of the disease.

The penicillin revolution resulted in the extensive suppression of syphilis, with its virtual disappearance from the private practice of medicine. A disease which once required the ultimate in diagnostic and therapeutic skill soon evolved into a problem in case-finding and quick routine therapy. Many recent medical graduates are unfamiliar with the disease; some of them have never seen a case of early syphilis.

Is this the end? Are we to see at last the extinction of an ancient tyranny that exacted forfeit from emperor and peasant, rake, and archbishop?

Two studies have given us the reply, bearing with them some cause for concern. Fiumara[1] has recently re-emphasized the preventable nature of congenital syphilis, and that practical elimination of prenatal syphilis can be achieved with the means available to clinical and public health medicine. Early adequate prenatal care, including a serologic test for syphilis at the first prenatal visit, should detect almost all infected pregnant women. Treatment is remarkably effective. If initiated before the sixteenth week of pregnancy, it will prevent infection of the fetus; treatment after the fourth month will cure the disease in utero. Despite all

of this, in 1964, cases of congenital syphilis under one year of age increased almost three times over the number reported in 1960.

A disquieting report by Short, Knox, and Glicksman[2] disclosed an expected failure rate of approximately 10 per cent from the best treatment schedules used in neurosyphilis, and substantially more than 10 per cent from inadequate treatment schedules, exemplified by 2.4 million units of benzathine penicillin-G. Although a 90 per cent "cure rate" in patients with active neurosyphilis seems impressive, the failure in approximately 10 per cent does not seem tolerable or compatible with the present high regard for penicillin in the treatment of neurosyphilis. There is no justification for omitting the spinal fluid examination at the time of treatment in any stage of syphilis later than the secondary stage on the grounds that treatment adequate for neurosyphilis has been administered. If a patient has developed neurosyphilis, the spinal fluid will show abnormalities by the end of the fourth year of infection. Although subsequent studies of long-term treatment results with procaine penicillin-G may materially improve the experience reported here, there are certainly no grounds for complacency today.

The situation suggests that a continued program of education is necessary. The practicing physicians' cooperation in case-reporting is of greatest importance. He can assure the patient that health authorities will respect his privacy and observe secrecy and delicacy in their case-finding techniques. Serologic test clinics and premarital blood tests should be continued, even though the yield is low.

Perhaps the ultimate solution to the syphilis problem will come about through development of a vaccine. Recent work gives some encouragement to this belief. The transmission to chimpanzees of pinta, a treponemal disease carried by an organism indistinguishable from T. pallidum, has been accomplished.[3] There is evidence the disorder confers immunity to syphilis. The possibilities are substantial for the success of further work.

Recently, cross-immunity studies of treponemal strains indicate there are common antigen components between virulent and non-virulent forms of T. pallidum, and there is a strong possibility non-virulent forms may be used in conferring immunity against virulent T. pallidum. The complexities of the problem are the subject of Knox's[4] recent editorial, which summarized current efforts toward development of a vaccine.

There is thus some cause for hope that a vaccine for the purpose of preventing syphilitic infection may be developed in the near future. Until that day, an ancient enemy, though growing weaker, will continue to scourge the races of man.

References

1. Fiumara, N. J.: The Legacy of Syphilis. Arch. Derm. 92:676, 1965.
2. Short, D. H., Knox, J. M., and Glicksman, J.: Neurosyphilis, The Search for Adequate Treatment. Arch. Derm. 93:87, 1966.
3. Kuhn, III, U.S.G., Varela, G., Changler, Jr., F. W., and Osuna, G. G.: Experimenal Pinta in the Chimpanzee. JAMA 206:829, 1968.
4. Knox, J. M.: A Vaccine for Syphilis. Derm. Digest 8:17, 1969.

William H. Kaufman, M.D.

News ....

Calendar of Events

Cardiovascular Symposium—Sponsored by Tidewater Heart Association—Conference Center—Williamsburg—September 5-7, 1969.

Medicine and Religion Symposium—University of North Carolina School of Medicine—Chapel Hill, North Carolina—September 8-9, 1969.

Whitman Memorial Lectures—Sponsored by Lewis-Gale Medical Foundation—Subject will be "What's New at Johns Hopkins University in 1969"—Hotel Roanoke—Roanoke—September 11, 1969.

American College of Chest Physicians, Potomac Chapter—Ingleside Inn, Staunton—October 4, 1969.

National Conference on Physicians and Schools—Pick-Congress Hotel—Chicago—October 8-11, 1969.

Annual Seminar—Sponsored by Bluefield Sanitarium, Stevens Clinic and Clinch Valley Clinic—Bluefield Country Club—October 16, 1969.

The Medical Society of Virginia—Annual Meeting—Virginia Beach—October 16-19, 1969.

American Academy of Pediatrics—Annual Meeting—Palmer House—Chicago—October 18-23, 1969.

American Cancer Society, Virginia Division—Annual Meeting—Hotel Jefferson—Richmond—October 22-23, 1969.

Conference on Children with Learning Disabilities—Sponsored by Virginia Council on Health and Medical Care—Conference Center—Williamsburg—November 9-11, 1969.

Southern Medical Association—Annual Meeting—Atlanta, Georgia—November 10-13, 1969.

Virginia Hospital Association—Annual Meeting—Marriott Twin Bridges Motor Hotel—Arlington—November 13-14, 1969.

American Medical Association—Clinical Convention—Denver—November 30-December 3, 1969.

Annual Postgraduate Program—Sponsored by Medical Staff of Roanoke Memorial Hospital—Roanoke—March 19-20, 1970.

* * * * * *

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following new members were received into The Medical Society of Virginia during the month of June:

Ali Mohamad Bastani, M.D., McLean
William Charles Constable, M.D., Charlottesville
James Bernard Turner Foster, M.D., Alexandria
Conrado B. Garcia, M.D., Claudville
George Mitchell Gura, Jr., M.D., Norfolk
Ronald Bruce Kledzik, M.D., Norfolk
Mario Andres Ordonez, M.D., Alexandria
Robert Francis Scott, M.D., Norfolk
John Joseph Whelan, M.D., Falls Church
Gerald Weitzman, M.D., Portsmouth

Portsmouth Academy of Medicine.

Officers for the Academy are: president, Dr. John W. Hollowell; and secretary, Dr. W. B. Pope, Jr.

Dr. Ware Honored.

A pavilion in the labor and delivery suite of the Medical College of Virginia Hospital has been named the H. Hudnall Ware Jr. Cesarean Section Room in honor of Dr. Ware. Dr. Ware has been a member of the faculty of the College for forty years and was the first obstetric-gynecology specialist in Richmond to perform his own cesarean sections during the last 1920's.

Dr. Ware was appointed emeritus professor of obstetrics and gynecology by the Board of Visitors, effective July 1st. He will continue his private practice and research activities in the causes of maternal and fetal mortality.

Dr. Charles M. Caravati,

Richmond, has been appointed emeritus professor of medicine at the Medical College of Virginia, effective July 1st. He has been professor of medicine and assistant dean for continuing education since 1966 and a member of the faculty since 1924. Dr. Caravati will continue to be active in teaching and as a consultant in gastroenterology.

Dr. David B. Kruger,

Norfolk, has been appointed by Governor Mills E. Godwin as a member of the State Hospital Board for a four-year term. He succeeds Dr. R. Coleman Longan, Jr., Richmond, whose term expired on June 30th.

Dr. Claude L. Neale,

Richmond, has been promoted from associate professor to professor of psychiatry at the Medical College of Virginia. He has been a member of the faculty since 1942 and director of the in-patient psychiatric service since 1952.

Dr. Rex Blankinship,

Richmond, has been elected to Life Fellowship in the American Psychiatric Association, in recognition of meritorious contributions to psychiatry.

Virginia Industrial Medical Association.

Dr. James M. MacMillan, Richmond, has been elected president of the Virginia Industrial Medical Association, succeeding Dr. Charles L. Savage, Waynesboro. Dr. Asa W. Vicellio, Jr., Martinsville, was named president-elect; Dr. Henry Dickerson, Martinsville, vice-president; Dr. Clinton W. Stallard, Jr., Newport News, secretary-treasurer. Directors are Drs. E. Claiborne Irby and James O. Burke, Richmond, and Dr. Mallory Andrews, Norfolk.

Virginia Heart Association.

Dr. John C. Watson, Alexandria, has been named president-elect of this Association. New members to the Board of Directors include the following doctors: Dr. K. E. Alderman, Clintwood; Dr. John T. Hazel, Warrenton and Dr. Carl P. Parker, Jr., Falls Church. Re-elected to the Board were: Drs. Monte L. Binder and Robert E. Stout, Newport News; Dr. Reno R. Porter, Rich-

mond; and Dr. Harry T. Johnson, Roanoke, outgoing president of the Association.

The Seventeenth Annual Seminar

Of the Bluefield Sanitarium, the Stevens Clinic and the Richlands Clinic will be held at the Bluefield Country Club on October 16th. The medical portion of the program will be in the afternoon. Among the speakers are Dr. Hugh Davis, Johns Hopkins University, who will speak on early antiplastic lesions of the cervix; Dr. William B. Kieswetter, Pittsburgh, on Gastrointestinal Bleeding in Infancy and Childhood; and Dr. Henry F. Warden, Jr., Bluefield, on "Black Lung Disease".

The after-dinner speaker will be J. P. Wilbern, administrator of the President's Council on Physical Fitness and Sports.

Further information may be obtained from Dr. Frederick T. Edmunds, Bluefield Sanitarium, Bluefield, West Virginia.

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Emergency Room Physicians Wanted.

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Obituary . . . .

Dr. Fletcher Drummond Woodward,

Charlottesville, died July 2 at the age of seventy-four. He received his medical degree from the University of Virginia in 1919.

Dr. Woodward was internationally known as an eye, ear, nose and throat specialist and was one of the first physicians to perform the endoscopic removal of objects lodged in the lungs or esophagus, and he also performed the first operations in the State for removal of the larynx for cancer. Dr. Woodward was also a pioneer in automobile safety and became a world-wide leader in efforts to prevent death and injury from automobile accidents. Many of his recommendations have been adopted by fedederal legislation to control car manufacturing.

Dr. Woodward was co-founder of the University's department of speech and hearing and the Virginia Hearing and Speech Foundation. He served as an officer in fifteen medical organizations, including national chairman of the section on ear, nose and throat of the American Medical Association, president of the American Laryngology, Rhinology and Otology Society, and examiner and senior counsel for the American Board of Otolaryngology. He had been a member of The Medical Society of Virginia for forty-five years.

His wife, a daughter and two sons survive him.

Dr. Richard Phillips Bell, Jr.,

Died June 16 at his home in Staunton. He was fifty-six years of age and a graduate in medicine from the University of Virginia in 1938. He served with the University of Virginia unit, 8th Evacuation Hospital, during World War II. Dr. Bell was a member of the staff of King's Daughter's Hospital and served as president of the medical staff in 1954.

Dr. Bell was the founder and first president of the Augusta County Historical Society and was a member and former president of the Kiwanis Club. He served as president of the Valley Medical Association and the Virginia Surgical Society. He had been a member of The Medical Society of Virginia for twenty-five years.

His wife and four sons survive him.

Dr. William Dona Damron,

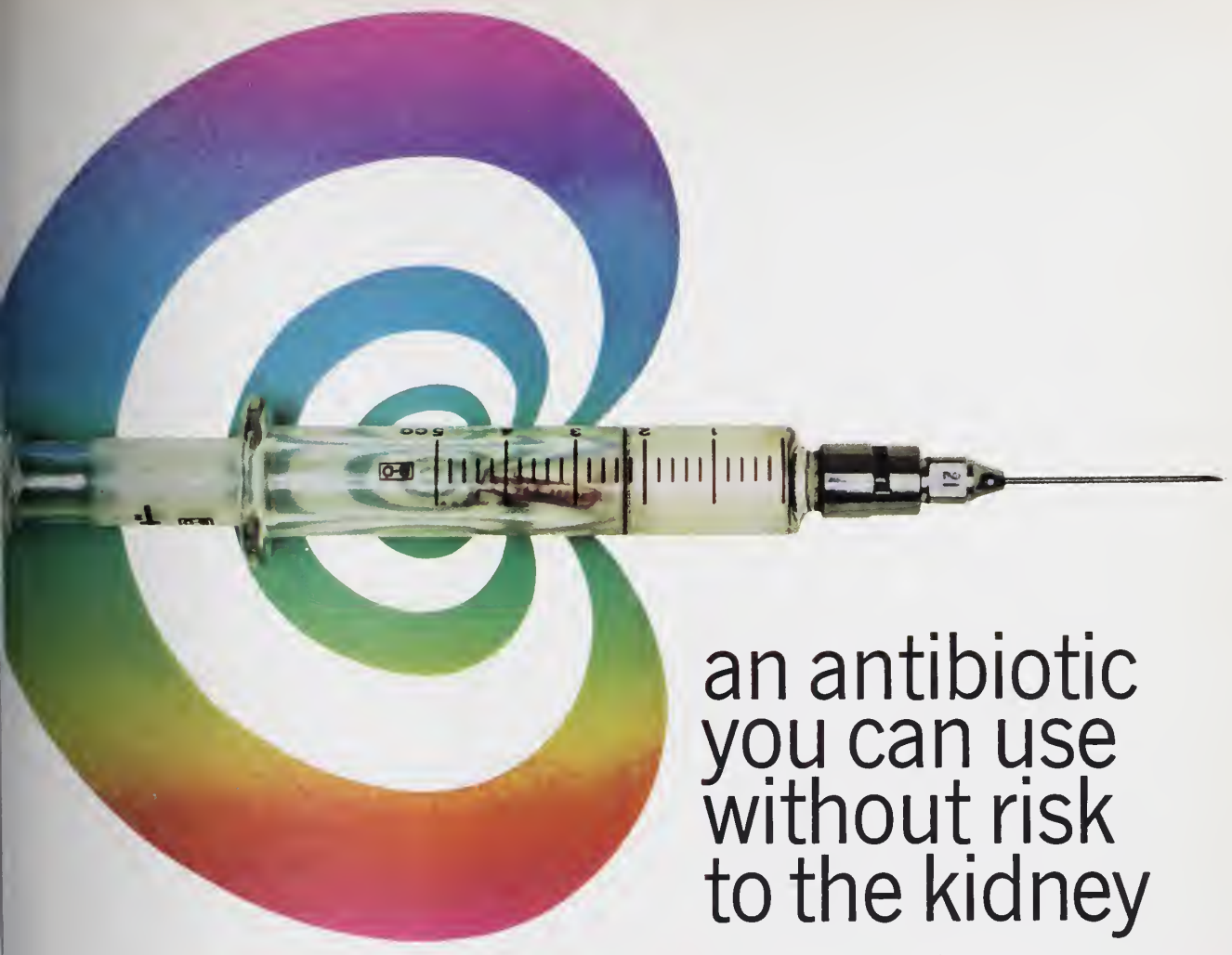
Richlands, died June 17 following a heart attack, at the age of sixty-two. He received his medical degree from the University of Louisville in 1942 and had practiced in the Richlands area for the past 17 years. Dr. Damron was formerly affiliated with the Grundy Hospital and the Mattie Williams Hospital in Richlands prior to opening his office for private practice. He had been a member of The Medical Society of Virginia since 1953.

His wife and a daughter survive him.

Dr. Carl Ashton Broaddus,

Newtown, died July 2, at the age of seventy-five. He was a graduate of the Medical College of Virginia in 1917 and of the U. S. Naval Medical School in 1922. Dr. Broaddus enlisted in the Marine Corps in 1917 and transferred to the Navy the same year. He retired with the rank of Vice Admiral and was appointed the first public health officer for the Tappahannock district of the State Health Department in 1952 which position he held until 1964. Dr. Broaddus had been a member of The Medical Society of Virginia for fifteen years.

His wife and a son survive him.



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Contraindications: A history of allergic reactions to penicillins or cephalosporins and infections due to penicillinase-producing organisms.

Precautions: Typical penicillin-allergic reactions may occur, especially in hypersensitive patients. Mycotic or bacterial superinfections may occur. Experience in newborn and premature infants is limited and caution should be used in treatment, with frequent organ function evaluations. Safety for use in pregnancy is not established. In gonorrheal therapy, serologic tests for syphilis should be performed initially and monthly for 4 months. Assess renal, hepatic and hematopoietic function intermittently during long-term therapy.

Adverse Reactions: Skin rash, pruritus, urticaria, nausea, vomiting, diarrhea and anaphylactic reactions. Mild transient elevations of SGOT or SGPT have been noted. Black tongue has been noted in some patients receiving the Chewable Tablets.

Usual Dosage: Adults—250 or 500 mg. q. 6 h. (according to infection site and offending organisms). Children—50-100 mg./Kg./day in 3 to 4 divided doses (depending on infection site and offending organisms). Bacterial meningitis—150-200 mg./Kg./day in 6 to 8 divided doses. Children weighing more than 20 Kg. should be given an adult dose when prescribing orally. In parenteral administration, children weighing more than 40 Kg. should be given an adult dose. Beta-hemolytic streptococcal infections should be treated for at least 10 days.

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Warnings: Use with discretion during the second and third trimesters of pregnancy and restrict to patients not cured by topical measures. Flagyl (metronidazole) is secreted in the breast milk of nursing mothers; it is not known whether this can be injurious to the newborn.
Precautions: Mild leukopenia has been reported during Flagyl use; total and differential leukocyte counts are recommended before and after treatment with the drug, especially if a second course is necessary. Avoid alcoholic beverages during Flagyl therapy because abdominal cramps, vomiting and flushing may occur. Discontinue Flagyl promptly if abnormal neurologic signs occur There is no accepted proof that Flagyl is effective against other organisms and it should not be used in the treatment of other conditions. Exacerbation of moniliasis may occur.
Adverse Reactions: Nausea, headache, anorexia, vomiting, diarrhea, epigastric distress, abdominal cramping, constipation, a metallic, sharp and unpleasant taste, furry or sore tongue, glossitis and stomatitis possibly associated with a sudden overgrowth of *Monilia*, exacerbation of vaginal moniliasis, an occasional reversible moderate leukopenia, dizziness, vertigo, drowsiness, incoordination and ataxia, numbness or paresthesia of an extremity, fleeting joint pains, confusion, irritability, depression, insomnia, mild erythematous eruptions, "weak-

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Dosage and Administration: In the Female. One 250-mg. tablet orally three times daily for ten days. Courses may be repeated if required in especially stubborn cases; in such patients an interval of four to six weeks between courses and total and differential leukocyte counts before, during and after treatment are recommended. Vaginal inserts of 500 mg. are available for use, particularly in stubborn cases. *When the vaginal inserts are used,* one 500-mg. insert is placed high in the vaginal vault each day for ten days and the *oral dosage is reduced to two 250-mg. tablets daily during the ten-day course of treatment.* Do not use the vaginal inserts as the *sole* form of therapy. *In the Male.* Prescribe Flagyl only when trichomonads are demonstrated in the urogenital tract, one 250-mg. tablet two times daily for ten days. Flagyl should be taken by both partners over the same ten-day period when it is prescribed for the male in conjunction with the treatment of his female partner.

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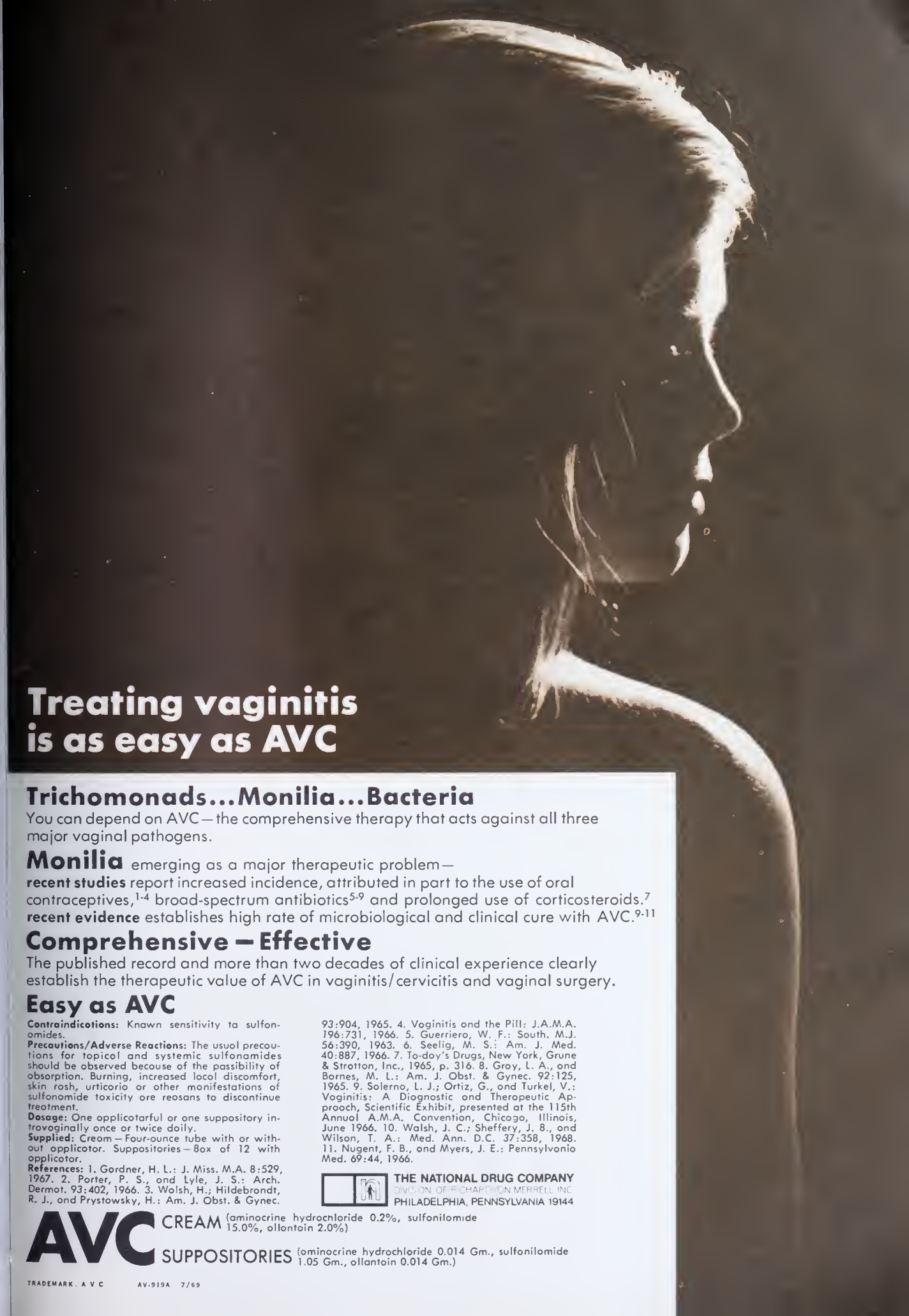
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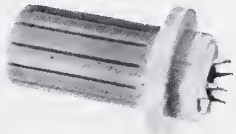
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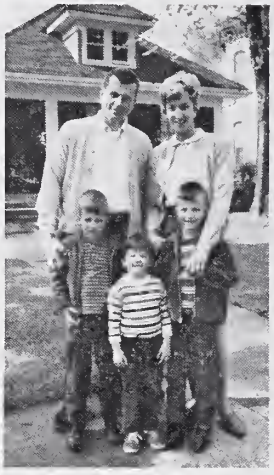


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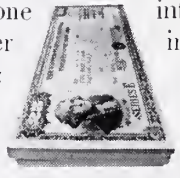
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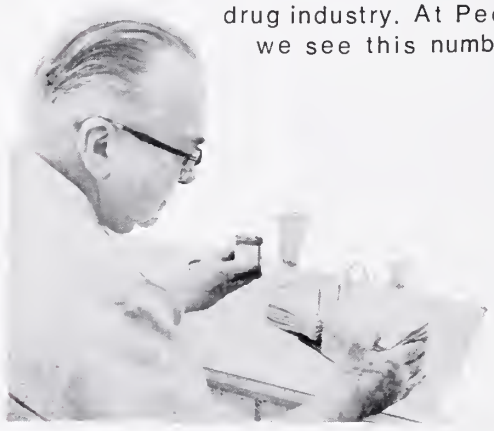
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Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.

Precautions: Drowsiness, anorexia, slight gastric distress can occur. In excessive drowsiness, consider longer dosage intervals. Persons on full dosage should not operate vehicles. Nonsusceptible organisms may overgrow; treat superinfection appropriately. Treat beta-hemolytic streptococcal infections at least 10 days to help prevent rheumatic fever or acute glomerulonephritis. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Adverse Reactions: *Gastrointestinal*—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity* reactions—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

Upon adverse reaction, stop medication and treat appropriately.

Lederle

348-8


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Novahistine LP can speed your patients on their way, by providing prompt and continuous relief from the symptoms of summer colds and allergies. These continuous-release tablets contain a vasoconstrictor-antihistamine formulation that goes to work rapidly and lasts for hours. Even when nasal congestion is caused by repeated allergic episodes, the convenient twice-a-day dosage of Novahistine LP makes it easy for most patients to enjoy relief all day and all night. When symptoms are severe, a third dose of one or two tablets may be safely given. Use with caution in patients with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result.

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DOW

Novahistine® LP decongestant

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When disease is ruled out and psychic tension is implicated

Valium® (diazepam) helps relax the patient and relieve his somatic symptoms

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcitec states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Virginia MEDICAL MONTHLY

SEPTEMBER 1969

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PROGRAM
ISSUE



Dear Doctor, You made me what I am today— a whole lot slimmer!

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Adverse Reactions: Rarely severe enough to require discontinuation of therapy, unpleasant symptoms with diethylpropion hydrochloride have been reported to occur in relatively low incidence.

As is characteristic of sympathomimetic agents, it may occasionally cause *CNS effects* such as insomnia, nervousness, dizziness, anxiety, and jitteriness. In contrast, CNS depression has been reported. In a few epileptics an increase in convulsive episodes has been reported.

Sympathomimetic *cardiovascular effects* reported include ones such as tachycardia, precordial pain, arrhythmia, palpitation, and increased blood pressure. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride; this was an isolated experience, which has not been reported by others.

Allergic phenomena reported include such conditions as rash, urticaria, ecchymosis, and erythema.

Gastrointestinal effects such as diarrhea, constipation, nausea, vomiting, and abdominal discomfort have been reported.

Specific reports on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia.

A variety of miscellaneous adverse reactions have been reported by physicians. These include complaints such as dry mouth, headache, dyspnea, menstrual upset, hair loss, muscle pain, decreased libido, dysuria, and polyuria.

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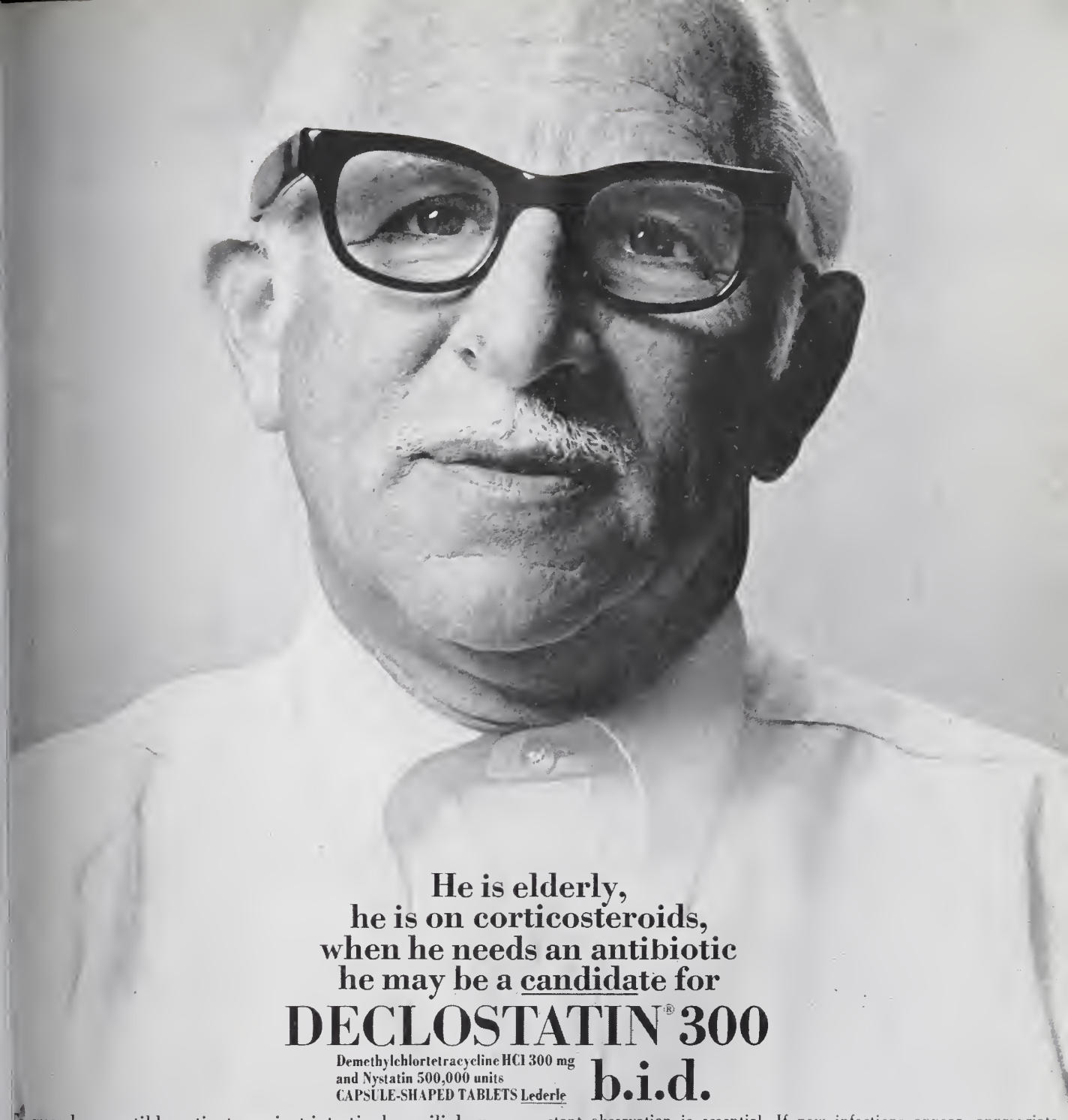
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For your susceptible candidates, prescribe DECLOSTATIN —the broad-spectrum therapy that prevents monilial overgrowth.

Contraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken.

In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

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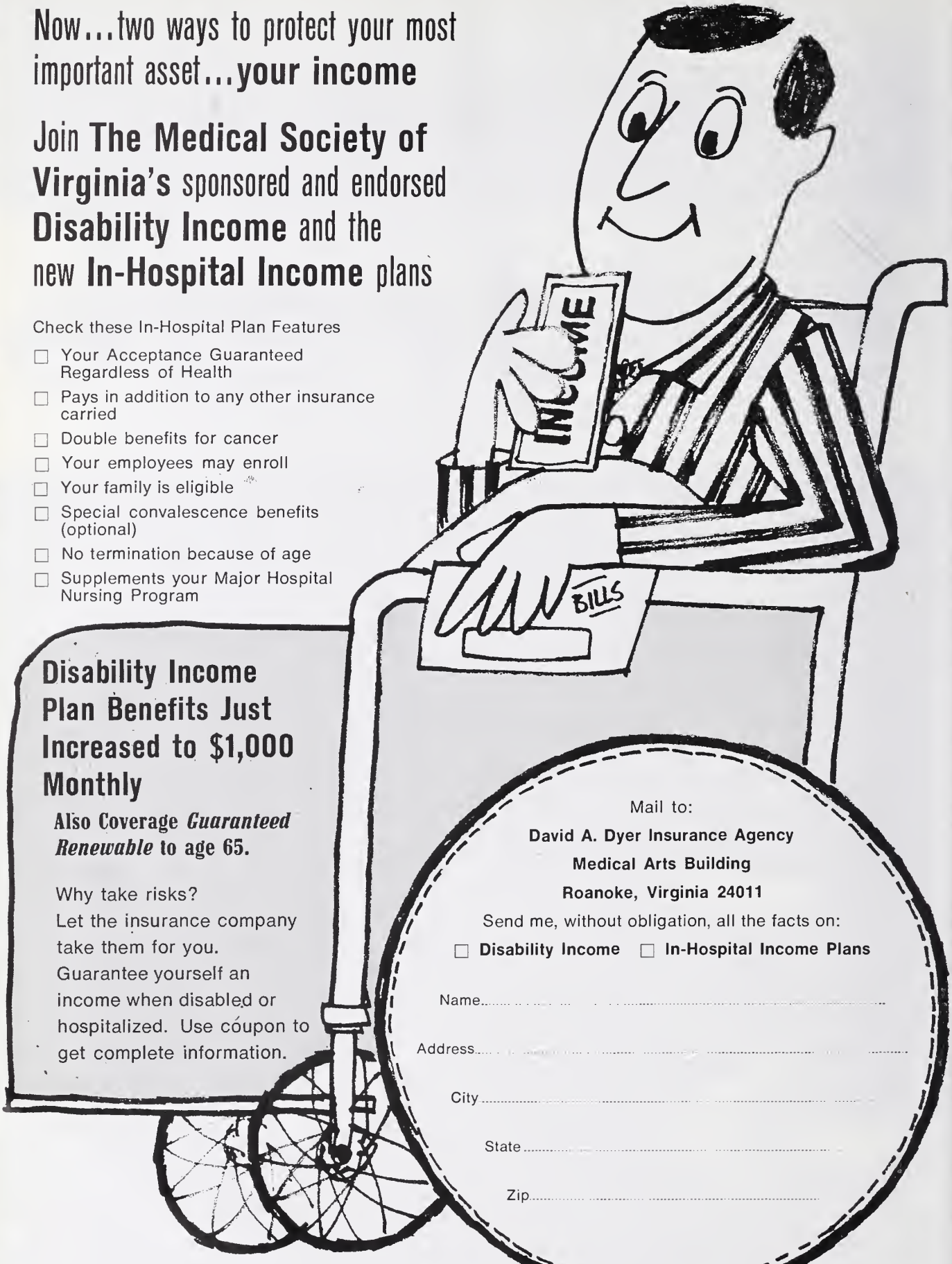
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OFTEN... HER LOWER G. I. TRACT



Psycho-abdominal Distress: Frequently Female

Women aged 15 to 45 appear to be more prone than men to bloating, cramping pain of stress-related intestinal disturbances such as irritable or spastic colon.[1,2]

Frequently Recurrent

In the experience of many physicians, women are more likely to reappear time after time with repeated complaints of lower G.I. distress.

Requiring Definitive Therapy

Often needed is therapy adequate to control both the somatic and the emotional components of psycho-abdominal complaints.

Definitive Dual Therapy

'Milpath' contains a proven synthetic anticholinergic useful for relieving hypermotility, spasm, and hypersecretion of the gastrointestinal tract.

In addition, 'Milpath' provides a time-tested tranquilizer for mild but effective anti-anxiety action.

With Flexible Dosage

- 'Milpath'-400 (meprobamate 400 mg. + tridihexethyl chloride 25 mg.) Usual adult dose: 1 tablet *t.i.d.* and 2 at bedtime.
- **When less tranquilization is required: 'Milpath'-200 (meprobamate 200 mg. + tridihexethyl chloride 25 mg.)**

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gently but firmly

MILPATH®

(meprobamate + tridihexethyl chloride)

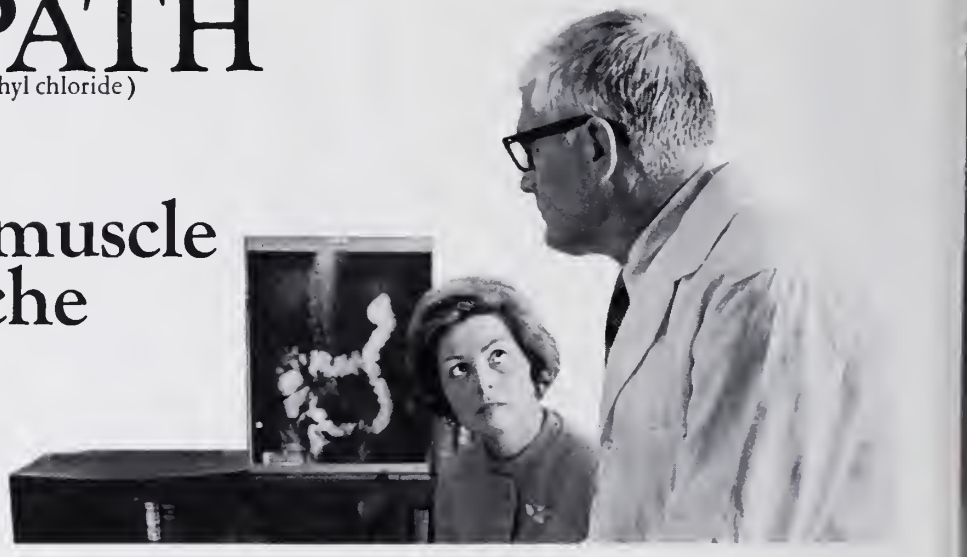
relaxes smooth muscle and psyche

Please see the following page for brief summary of prescribing information.

Gently but firmly MILPATH®

(meprobamate + tridihexethyl chloride)

Relaxes smooth muscle and psyche



Usual Adult Dosage

One 'Milpath'-400 tablet, three times a day at mealtimes, and two at bedtime. For greater anticholinergic effect, two 'Milpath'-200 tablets, three times a day at mealtimes and two at bedtime. Doses of meprobamate above 2400 mg. daily not recommended.

Indications

Useful in organic and functional disorders with hypersecretion and hypermotility of G.I. tract, especially when accompanied by anxiety, neurosis, or tension states. Should be used as an adjunct to all other therapeutic measures.

Contraindications

Tridihexethyl chloride: Urinary bladder-neck obstructions, e.g., prostatic obstruction due to hypertrophy; pyloric obstructions because of reduced motility and tonus: organic cardiospasm (megaesophagus); glaucoma; possibly in stenosing gastric or duodenal ulcers with significant gastric retention.

Meprobamate: Previous allergic or idiosyncratic reactions to meprobamate.

Precautions

Tridihexethyl chloride: Use cautiously in elderly males (possible prostatic hypertrophy).

Meprobamate: Carefully supervise dose and amounts prescribed. Consider possible dependence or habituation (reported occasionally after excessive use), particularly in severe psychoneurotics, alcoholics, ex-addicts. Withdraw gradually (one or two weeks) after excessive dosage for weeks or months to avoid recurrence of pre-existing symptoms (e.g., anxiety, anorexia, insomnia) or withdrawal reactions (e.g., vomiting, ataxia, tremors, muscle twitching; rarely, epileptiform seizures, more likely in those with CNS damage or latent convulsive disorders). If drowsiness or visual disturbance occurs, reduce dose and advise against activity requiring alertness (driving, machinery operation). Effects of excess alcohol may be increased. Grand mal seizures possible in persons with both petit and grand mal. Prescribe cautiously in small amounts to patients with suicidal tendencies. Prescribe with caution to patients with known sensitivity to compounds of similar chemical structure, e.g., carisoprodol.

Side Effects

The following side effects of components may occur with 'Milpath'.

Tridihexethyl chloride: Severe effects rare on recommended dosage. Anticholinergic effects: dry mouth (fairly frequent at oral doses of 100 mg.), constipation or "bloated" feeling. Possible: tachycardia, dilation of pupils, increased ocular tension, weakness, nausea, vomiting, headache, drowsiness, urinary hesitancy or retention, dizziness.

Meprobamate: Drowsiness, sometimes with ataxia, usually controlled by decreasing dosage, occasionally with aid of central stimulants (e.g., amphetamine). Rarely, allergic or idiosyncratic reactions (usually after one to four doses); in mild form: itchy, urticarial or erythematous, maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever, transient leukopenia, and one fatal bullous dermatitis (after meprobamate and prednisolone) reported. More severe, very rare hypersensitivity: fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (one fatal), anuria, anaphylaxis, stomatitis and proctitis. Treat symptomatically (e.g., epinephrine, antihistamines, possibly hydrocortisone); stop and do not restart the drug. Isolated agranulocytosis, thrombocytopenic purpura, one fatal aplastic anemia reported, but only in presence of known toxic drugs, porphyric symptoms reported but relationship not established. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation reported by one observer. Fixed drug eruption with meprobamate and cross reaction to carisoprodol reported.

Suicidal attempts may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse, and death. Excessive dosage has led rapidly to sleep, then reduction of vital signs to basal levels. Empty stomach, and if respiration becomes very shallow and slow, cautiously give CNS stimulants (e.g., caffeine, pentylenetetrazol, amphetamine); also pressor amines if indicated.

Supplied

In two strengths:
'Milpath'-400: Yellow, scored tablets.
'Milpath'-200: Yellow, coated tablets.
Before prescribing, consult package circular.

References

1. Harrison, T. R., et al.: Principles of Internal Medicine, Fifth Edition, New York, The Blakiston Division, McGraw-Hill Book Company, 1966, p. 1019. 2. Bockus, H. L.: Gastroenterology, Second Edition, Philadelphia & London, W. B. Saunders Company, 1964, Vol. II, p. 729 et seq.

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Warning: May be habit forming.

Usual Adult Dosage: As a daytime sedative, 15 mg. (¼ gr.) to 30 mg. (½ gr.) t.i.d. or q.i.d.

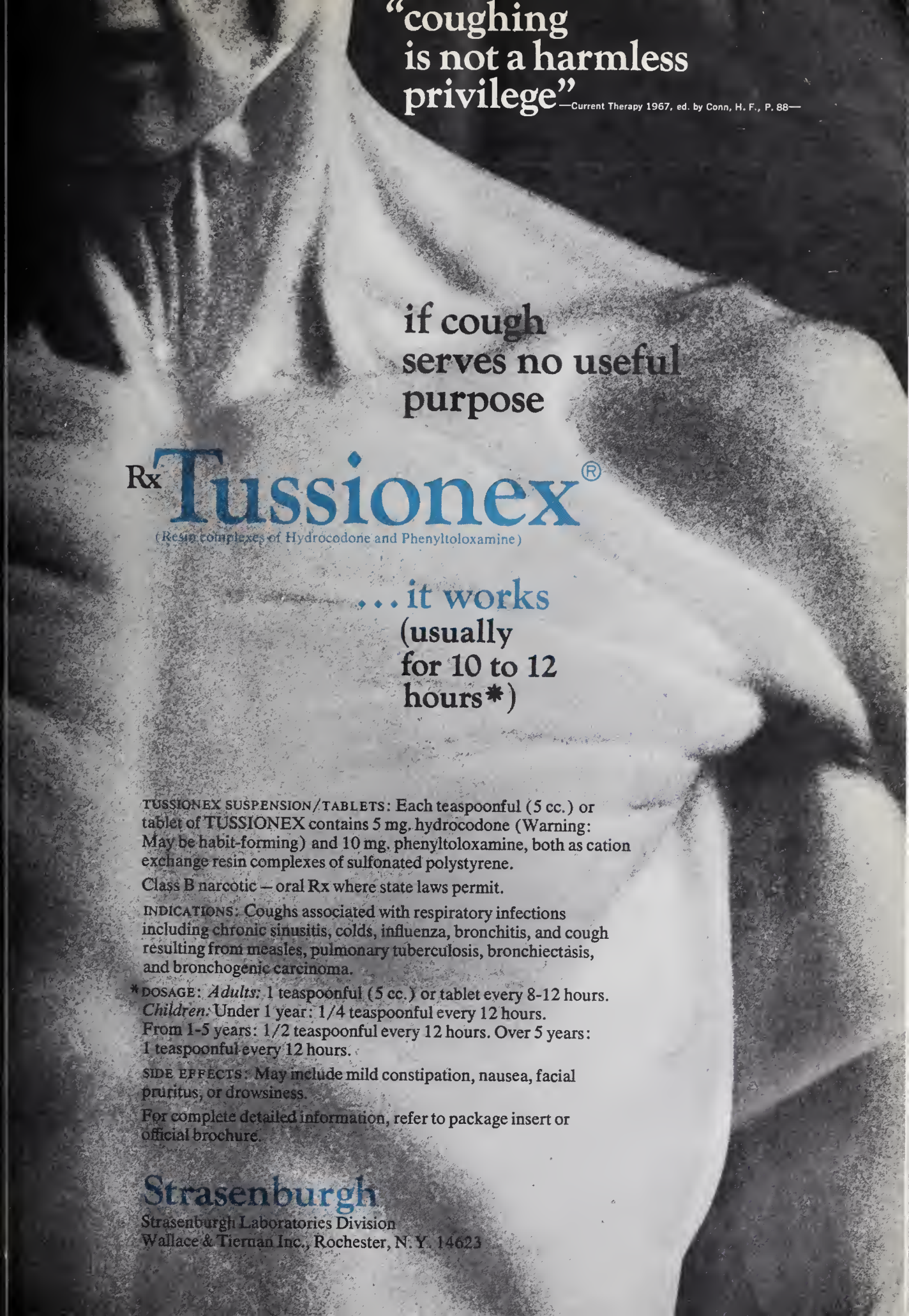
Available for daytime sedation: Tablets, 15 mg. (¼ gr.), 30 mg. (½ gr.); Elixir, 30 mg. per 5 cc. (alcohol 7%).

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*DOSAGE: *Adults:* 1 teaspoonful (5 cc.) or tablet every 8-12 hours. *Children:* Under 1 year: 1/4 teaspoonful every 12 hours. From 1-5 years: 1/2 teaspoonful every 12 hours. Over 5 years: 1 teaspoonful every 12 hours.
SIDE EFFECTS: May include mild constipation, nausea, facial pruritus, or drowsiness.
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Strasenburgh Laboratories Division
Wallace & Tiernan Inc., Rochester, N. Y. 14623



No place for beginners

Terramycin®
(oxytetracycline)

Fire victim. Examination reveals second degree burn of lower leg. To combat shock, restore circulatory volume and replace protein loss, plasma is administered. Local pressure dressing applied. Limb elevated to limit the flow of lymph. About 36 hours after admission the patient develops an elevated temperature and complains of pain at the site of the lesion. Dressing removed. A suppurating slough area has developed over part of the burn. A swab specimen is taken for culture and the slough area is debrided. Antibacterial treatment is begun with Terramycin I.M. Days later, recovery is progressing, and the laboratory report shows a mixed infection with a predominance of susceptible coliform bacteria, confirming the therapeutic choice. Terramycin therapy is continued until all signs of infection disappear.

Experience has shown that Terramycin offers special advantages in treating bacterial infections complicating burns, when strains of causative organisms are susceptible. Broad-spectrum antibacterial coverage. Activity unaffected by penicillinase. Rapidly achieved therapeutic blood levels. Proven tissue toleration.

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Terramycin® I.M.
(oxytetracycline)



Pfizer **LABORATORIES DIVISION**
New York, N.Y. 10017

Contraindicated: In individuals hypersensitive to any of the components of this drug.

Warnings: If renal impairment exists, even usual doses may lead to excessive systemic accumulation and possible liver toxicity. In such patients, lower than usual doses are indicated and for prolonged therapy oxytetracycline serum level determinations may be advisable.

Terramycin may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Use of oxytetracycline during the last trimester of pregnancy, neonatal period and early childhood may cause discoloration of teeth. This effect occurs mostly during long-term use of the drug, but it has also been observed in usual short-treatment courses.

During treatment with tetracyclines, individuals susceptible to photodynamic reactions should avoid direct sunlight. Discontinue therapy at first evidence of skin discomfort.

Note: With oxytetracycline, phototoxicity is not believed to occur and photoallergy is very rare.

Precautions: Use of broad-spectrum antibiotics occasionally may result in overgrowth of nonsusceptible organisms. Where such infections occur, discontinue oxytetracycline and institute specific therapy.

As with all intramuscular preparations, Terramycin Intramuscular Solution should be injected well within the body of a relatively large muscle. *Adults:* The preferred sites are the upper outer quadrant of the buttock (i.e., gluteus maximus), or the mid-lateral thigh. *Children:* It is recommended that intramuscular injections be given preferably in the mid-lateral muscles of the thigh. In infants and small children the periphery of the upper outer quadrant of the gluteal region should be used only when necessary, such as in burn patients, in order to minimize the possibility of damage to the sciatic nerve.

The deltoid area should be used only if well developed such as in certain adults and older children, and then only with caution to avoid radial nerve injury. Intramuscular injections should not be made into the lower and mid-thirds of the upper arm. As with all intramuscular injections, aspiration is necessary to help avoid inadvertent injection into a blood vessel.

Increased intracranial pressure with bulging fontanelles has been observed occasionally in infants receiving therapeutic doses of the drug, but such signs and symptoms have disappeared rapidly on cessation of treatment with no sequelae.

Adverse Reactions: Subcutaneous and fat-layer injection may produce mild pain and induration which may be relieved by an ice pack. Very mild gastrointestinal disturbances, not requiring discontinuance of the drug, may occur occasionally. Allergic reactions including anaphylaxis, rarely have been observed.

Dosage: *Adult:* The optimal dosage varies, depending on the type and severity of infection. Unless otherwise specified, a dose of 100 mg. every 8 to 12 hours, or a single daily dose of 250 mg. should be adequate for the treatment of most mild or moderately severe infections. In severe infections, 100 mg. every 6 to 8 hours, or 250 mg. every 12 hours may be necessary.

Serum levels obtained by the recommended dosages are comparable to those provided by the oral dosage of 1 to 2 Gm. daily in adults. Antibiotic therapy should be continued for at least 24 to 48 hours after all symptoms and fever have subsided.

In certain diseases specific courses of therapy may be recommended as a general guide. In primary and secondary syphilis for example, the daily administration of 2 Gm. oxytetracycline, orally, in divided doses for two weeks has given good results. In cases of gonococcal infection two intramuscular injections of 250 mg each, or one intramuscular injection of 250 mg. combined with one gram given orally as a single dose, will usually suffice, but repetition of this therapy will be required in an occasional case.

In the treatment of hemolytic streptococcal infections therapy should continue for at least 10 days to prevent development of rheumatic fever or glomerulonephritis. In the treatment of staphylococcal infections indicated surgical procedures should be carried out in all cases. *Pediatric:* A dosage of 3 mg./lb./day in two doses has been found satisfactory in the treatment of most mild to moderately severe infections. For more severe infections, higher dosages may be indicated and should be adjusted accordingly.

Terramycin Intramuscular Solution provides maximum absorption and patient toleration with minimal local irritation.

Supply: Terramycin (oxytetracycline) Intramuscular Solution: available in single dose, prescored glass ampules containing 100 or 250 mg. oxytetracycline/2 cc Isoject® syringes containing 100 or 250 mg. oxytetracycline/2 cc. and 10 cc. multiple dose vials containing 50 mg. oxytetracycline/cc.

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Sterazolidin®

50 mg. phenylbutazone
1.25 mg. prednisone
100 mg. dried aluminum hydroxide gel
150 mg. magnesium trisilicate

Prompt anti-inflammatory action for...
relieving pain and stiffness
reducing tenderness and swelling
restoring joint movement
in bursitis, synovitis, tenosynovitis
and acute fibrositis.

Total treatment time: 7 days
Usual dosage: 2 capsules t.i.d.

Sterazolidin is valuable in the treatment of acute rheumatic conditions so often refractory to routine therapy. However, it is a potent drug, not a simple analgesic. Therefore, Sterazolidin should never be administered casually. For complete details on dosage, adverse reactions, contraindications and precautions, please see the following two pages.

Sterazolidin®

Each capsule contains:

Butazolidin®, brand of phenylbutazone	**50 mg.**
prednisone	**1.25 mg.**
dried aluminum hydroxide gel	**100 mg.**
magnesium trisilicate	**150 mg.**

Antiarthritic
Anti-inflammatory

Capsules

Important Note Butazolidin, brand of phenylbutazone, and prednisone, the active ingredients of Sterazolidin, are both potent drugs; the pharmacologic action of each should be borne in mind when Sterazolidin is prescribed. Sterazolidin combines anti-inflammatory, analgesic, antipyretic, and antiallergic properties and cannot be considered a simple analgesic and should never be administered casually. The usual warnings, precautions and contraindications associated with Butazolidin, brand of phenylbutazone, therapy and steroids apply to Sterazolidin.

Indications: *Chronic treatment of:* rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis; and also treatment of acute rheumatic conditions such as bursitis, synovitis, tenosynovitis, various forms of acute fibrositis, and acute gouty arthritis.

Contraindications
Usually absolute: active, questionably healed or suspected tuberculosis, herpes simplex ophthalmia, acute psychoses or severe psychoneuroses, history of blood dyscrasia, the frankly senile patient, and active peptic ulcer.

Relative: exanthematous diseases, particularly varicella and fungal diseases (for other viral diseases, the physician must weigh the possible undesirable effects against anticipated clinical improvement), diverticulitis, recovery phase after gastrointestinal surgery, any condition complicated by cardiovascular disease, renal insufficiency, moderate or severe diabetes mellitus, thrombophlebitis, osteoporosis, convulsive disorders, thyroid disease, history of drug allergy, history of peptic ulcer, hypertension, the elderly patient, psychotic tendencies, pregnancy, except in severe disease (the safety of Sterazolidin in pregnancy has not been established), edema, and hepatic damage.

Its use in conjunction with other potent chemotherapeutic agents may greatly increase the possibility of toxic reaction, and this practice is, therefore, inadvisable. Large doses are contraindicated in patients with glaucoma.

Warning Coumarin-type anticoagulants depress prothrombin activity. This is accentuated in some cases when Butazolidin, brand of phenylbutazone, is simultaneously employed in treatment; occasional instances of severe bleeding have been reported. Patients receiving coumarin-type anticoagulants should be very carefully followed for evidence of excessive increase of prothrombin time when Sterazolidin is added to this regimen. Anticoagulant therapy can then be properly adjusted, if necessary. When prescribed alone, Sterazolidin has not been shown to influence prothrombin activity. Persistent or severe dyspepsia may be indicative of peptic ulceration. In these instances, upper gastrointestinal x-ray diagnostic tests should be performed if the drug is continued. Pyrazole compounds, such as phenylbutazone, may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Patients receiving such concomitant therapy, therefore, should be carefully observed for this effect.

Precautions and Adverse Reactions *Gluco-Corticoid Activity:* In some diabetic patients on prednisone, the insulin requirements may be increased. It is advisable to observe diabetic patients carefully during the treatment period. Since gluco-corticoids may unmask latent diabetes, all patients should be observed for this effect.

Electrolytes: Many patients receiving prednisone in average amounts show some loss of sodium, with little or no loss of potassium. With continued high dosage, however, sodium retention and potassium loss have been observed. Butazolidin, brand of phenylbutazone, has a definite tendency to produce sodium retention and hence, edema, particularly in the older age group. Elderly patients or those with hypertension, cardiac defect or renal dysfunction should therefore use Sterazolidin with special caution and the drug should be discontinued if edema develops. Development of edema may be prevented or minimized by withholding salt from the diet. Sodium retention may be counteracted with oral diuretics.

Nitrogen: With the recommended dosage of Sterazolidin, the possibility of nitrogen loss is remote. However, it is recommended that patients receive adequate protein in their diet. Osteoporosis or spontaneous fractures may occur with prolonged use of prednisone.

Gastrointestinal Tract: Clinical and animal studies do not indicate that the ulcerogenic activity of prednisone or Butazolidin, brand of phenylbutazone, is enhanced in the combination. To overcome gastrointestinal discomfort and occasional eructation in sensitive patients, the medication is best taken at mealtime or with milk; Sterazolidin contains antacid components to minimize the incidence of gastric complaints. All patients should be warned to report immediately the occurrence of black or tarry stools. The development of anemia should immediately suggest gastrointestinal bleeding.

Blood Elements: Patients receiving prednisone exhibit an eosinophil response similar to that seen with other steroids. During the initial weeks of treatment, Butazolidin, brand of phenylbutazone, usually causes some degree of hemodilution and resultant lowering of the red cell count. This phenomenon does not represent a true anemia and is not indicative of intolerance, but must be distinguished from true anemia secondary to gastrointestinal bleeding or other causes. With the extensive use of Butazolidin, brand of phenylbutazone, rare cases of agranulocytosis have occurred (ratio less than 1 per 200,000 patients). It should also be noted that agranulocytosis can occur suddenly in spite of regular, repeated normal white counts. Several cases of leukemia and leukemoid reactions have been reported with Butazolidin, brand of phenylbutazone, therapy. Although these reactions cannot be definitely attributed to this drug, the possibility of a causal relationship cannot be excluded. It should also be recognized that arthritic-type pains are sometimes the presenting symptom of leukemia. Accordingly, all patients receiving Sterazolidin should have

It's aggressive against acute arthritic pain and inflammation.



And, we want you to know all about it.

routine periodic blood counts before and during therapy. Any unexpected, significant change in the total white count, relative decrease in granulocytes, or appearance of immature forms should be regarded as a signal for immediate cessation of therapy and institution of appropriate countermeasures. Thrombocytopenic purpura and aplastic anemia must also be considered possible side effects of therapy with Butazolidin, brand of phenylbutazone.

Stress: Surgery: Prolonged use of prednisone may cause a potentially critical degree of adrenocortical insufficiency which may persist even after cessation of prednisone therapy. Therefore, if a patient is subjected to significant stress, such as surgery or trauma, either during Sterazolidin therapy or within one year after cessation of therapy, it is advisable to administer additional steroid and/or ACTH for the duration of the stress. Delayed wound healing may also occur in patients on prolonged therapy.

Infections: High or prolonged doses of prednisone interfere with the usual immune mechanisms against bacterial and viral infections and may promote their dissemination. In general, steroid treatment should not be given in the presence of infections unless appropriate antibiotic therapy is instituted at the same time. Systemic and localized infection complications during hormone therapy have been observed, including fulminating pneumonia, tuberculosis, moniliasis and aspergillosis. Should intercurrent infection develop, indicated antibiotic therapy must be initiated promptly. Every patient who is to receive Sterazolidin for any length of time should be thoroughly examined, including chest x-ray, for the presence of pulmonary or extrapulmonary tuberculosis.

Hormonal Imbalance: Gluco-corticoids, in prolonged dosage, may cause manifestations of hypercortisonism or Cushing's syndrome, such as: moonface, abnormal fat deposits, mental disturbances, muscle weakness and atrophy, cutaneous striae, acne, ecchymoses, hirsutism, menstrual disturbances, edema, osteoporosis and spontaneous fractures, and hypertension. Also, by suppressing adrenocortical function, chronic prednisone therapy may cause some degree of atrophy of the adrenal glands. Therefore, if Sterazolidin is to be discontinued, the steroid dosage should be tapered off gradually. In addition, it may be advisable to stimulate the adrenal glands with ACTH. Prednisone induces a prompt decrease in the urinary 17-ketosteroids. Pretreatment levels are usually regained within 7 to 14 days after cessation of therapy. Under conditions of long-term administration, a small percentage of patients on phenylbutazone may develop varying degrees of reversible thyroid hyperplasia.

Allergic Response: Development of drug rash should alert the physician to promptly discontinue the drug. The presence of prednisone in Sterazolidin may reduce the degree of allergic response; nevertheless, the same cautious attitude must be preserved with Sterazolidin as with Butazolidin, brand of phenylbutazone, if allergic manifestations occur. Other adverse reactions that have been observed with glucocorticoid therapy include: excessive appetite and weight gain, hyperidrosis, pigmentation, dry,scaly skin, thinning scalp hair, tachycardia, thrombophlebitis, headache, neuropathy (including paresthesias and neuritis), diffuse vasculitis similar to periarteritis nodosa, subcapsular cataracts, impaired renal function, lupus erythematosus-like changes, convulsions, insomnia, abdominal distention, aseptic necrosis of the femoral head, acute pancreatitis and ulcerative esophagitis.

Miscellaneous: Stomatitis and, rarely, salivary gland enlargement occasionally require the interruption of treatment with Butazolidin, brand of phenylbutazone. Adoption of a lower dosage schedule and the institution of strict oral hygiene sometimes prevent recurrence of lesions. The infrequent occurrence of such subjective sensations as vertigo or languor during therapy with Butazolidin, brand of phenylbutazone, is seldom a serious or significant complication. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis and jaundice, hypersensitivity angiitis, pericarditis and several cases of anura and hematuria. Patients should be carefully evaluated before treatment is started and those receiving Sterazolidin must remain under close medical supervision to guard against undesirable reactions such as those described. They should be instructed to report immediately the occurrence of fever, sore throat, lesions in the mouth, or black or tarry stools. It is recommended that periodic examinations of the patient include:

1. Verbal and physical examination, including blood pressure and appraisal of the cardiovascular, digestive and skeletal systems, for indications of toxic reaction.
2. Complete blood count (at weekly intervals during the first month), urinalysis, x-ray and electrolyte studies, as indicated.
3. Check of patient's weight to detect significant water retention.

Dosage Dosage should be individualized. The following general rules should be observed:

In acute therapy, dosage *should not exceed* 12 capsules on the first day and 6 to 8 capsules on succeeding days. Treatment for more than 7 days is rarely necessary. When therapy extends beyond one week, dosage should not exceed 6 capsules a day.

In chronic therapy, dosage *should not exceed* 6 capsules a day and should be tapered off gradually to establish the minimum maintenance level at which the patient still feels reasonably comfortable. A trial period of one week of therapy is considered adequate to determine the therapeutic effect of the drug. In the absence of a favorable response, therapy should be discontinued.

When switching from chronic high steroid therapy to Sterazolidin, the importance of gradual reduction of steroid dosage cannot be overemphasized. It should be kept in mind that the steroid content of 8 capsules of Sterazolidin will replace 10 mg. of prednisone (or its equivalent in related steroids).

Clinical experience indicates that most patients with rheumatoid arthritis may eventually be maintained on 3 to 6 capsules of Sterazolidin a day. It is advisable to administer the total daily requirement in divided doses.

Availability Sterazolidin: Light blue and orange capsules, in bottles of 100 and 1000.
(B)46-660-B

For complete details, please see full prescribing information.

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Each tablet contains 4 mg. of perphenazine and 10 mg. of amitriptyline hydrochloride

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During the years of declining strength and increasing infirmity, many patients are more sensitive to both the desired response and the unwanted effects of some drugs. That's when low-dosage therapy is needed. And that's when TRIAVIL 4-10, as initial therapy, and TRIAVIL 2-10, for maintenance, can prove particularly useful.

Starting with TRIAVIL 4-10 should help minimize possible dose-related side effects in the geriatric patient with coexisting anxiety and depression. And, subsequently, TRIAVIL 2-10 can increase flexibility in adjusting maintenance dosage.

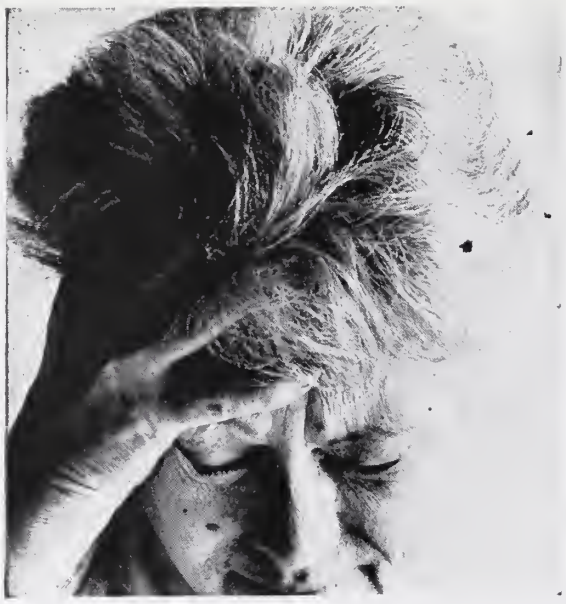
Activities made hazardous by diminished alertness should be avoided. You will want to inform your patients that the effects of alcohol may be potentiated. Because of the potentiation of other drug effects possible with MAO inhibitors, such agents should not be given concomitantly with TRIAVIL. However, therapy with TRIAVIL can be initiated cautiously two weeks or more after withdrawal of the MAOI drugs. And, until significant remission is observed, close supervision of any seriously depressed patient is, of course, essential to guard against possible suicide. The drug is contraindicated in glaucoma, in patients expected to experience problems of urinary retention, in drug-induced CNS depression, and in bone marrow depression.

TRIAVIL 4-10 & 2-10—tranquilizer-antidepressant therapy especially appropriate for the elderly patient so often intolerant to medication in high dosages.

TRIAVIL® **for moderate to severe anxiety with coexisting depression**

containing perphenazine and amitriptyline HCl
TRANQUILIZER-ANTIDEPRESSANT

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TRIAVIL 4-25: Each tablet contains 4 mg. of perphenazine and 25 mg. of amitriptyline hydrochloride.
TRIAVIL 2-10: For use in adjusting maintenance dosage. Each tablet contains 2 mg. of perphenazine and 10 mg. of amitriptyline hydrochloride.

for moderate to severe anxiety with coexisting depression

INDICATIONS: Patients with moderate to severe anxiety and/or agitation and depressed mood; patients with depression in whom anxiety and/or agitation are severe; patients with depression and anxiety in association with chronic physical disease; schizophrenics with associated depressive symptoms.

CONTRAINDICATIONS: Central nervous system depression from drugs (barbiturates, alcohol, narcotics, analgesics, antihistamines); bone marrow depression; urinary retention; pregnancy; glaucoma. Do not give in combination with MAOI drugs because of possible potentiation that may even cause death. Allow at least 2 weeks between therapies. In such patients therapy with TRIAVIL should be initiated cautiously, with gradual increase in the dosage required to obtain a satisfactory reponse.

WARNINGS: Patients should be warned against driving a car or operating machinery or apparatus requiring alert attention, and that response to alcohol may be potentiated.

PRECAUTIONS: Suicide is always a possibility in mental depression and may remain until significant remission occurs. Supervise patients closely in case they may require hospitalization or concomitant electroshock therapy. Untoward reactions have been reported after the combined use of antidepressant agents having various modes of activity. Accordingly, consider possibility of potentiation in combined use of antidepressants. Not recommended for use in children. Mania or hypomania may be precipitated in manic-depressives (perphenazine in TRIAVIL seems to reduce likelihood of this effect). If hypotension develops, epinephrine should not be employed, as its action is blocked and partially reversed by perphenazine. Caution patients about errors of judgment due to change in mood.

SIDE EFFECTS: Similar to those reported with either constituent alone. **Perphenazine:** Should not be used indiscriminately. Use caution in patients with history of convulsive disorders or severe reactions to other phenothiazines. Likelihood of untoward actions greater with high doses. Closely supervise with any dosage. Side effects may be any of those reported with phenothiazine drugs: blood dyscrasias (pancytopenia, thrombocytopenic purpura, leukopenia, agranulocytosis, eosinophilia); liver damage (jaundice, biliary stasis); extrapyramidal symptoms (opisthotonos, oculogyric crisis, hyperreflexia, dystonia, akathisia, dyskinesia, parkinsonism) usually controlled by the concomitant use of effective antiparkinsonian drugs and/or by reduction in dosage, but sometimes persist after discontinuation of the phenothiazine; severe, acute hypotension (of particular concern in patients with mitral insufficiency or pheochromocytoma); skin disorders (photosensitivity, itching, erythema, urticaria, eczema, up to exfoliative dermatitis); other allergic reactions (asthma, laryngeal edema, angioneurotic edema, anaphylactoid reactions); peripheral edema; reversed epinephrine effect; endocrine disturbances (lactation, galactorrhea, disturbances of menstrual cycle); grand mal convulsions; cerebral edema; altered cerebrospinal fluid proteins; polyphagia; paradoxical excitement; photophobia; skin pigmentation; failure of ejaculation; EKG abnormalities (quinidine-like effect); reactivation of psychotic processes; catatonic-like states; autonomic reactions such as dryness of the mouth, headache, nausea, vomiting, constipation, obstipation, urinary frequency, blurred vision, nasal congestion, and a change in the pulse rate; hypnotic effects; pigmentary retinopathy; corneal and lenticular pigmentation; occasional lassitude; muscle weakness; mild insomnia; significant unexplained rise in body temperature may suggest intolerance to perphenazine, in which case discontinue. Antiemetic effect may obscure signs of toxicity due to overdosage of other drugs or make diagnosis of other disorders such as brain tumors or intestinal obstruction difficult. May potentiate central nervous system depressants (opiates, analgesics, antihistamines, barbiturates, alcohol), atropine, heat, and phosphorous insecticides. **Amitriptyline:** Careful observation of all patients recommended. Side effects include drowsiness (may occur within the first few days of therapy); dizziness; nausea; excitement; hypotension; fainting; fine tremor; jitteriness; weakness; headache; heartburn; anorexia; increased perspiration; incoordination; allergic-type reactions manifested by skin rash, swelling of face and tongue, itching; numbness and tingling of limbs, including peripheral neuropathy; activation of latent schizophrenia (however, the perphenazine content may prevent this reaction in some cases); epileptiform seizures in chronic schizophrenics; temporary confusion, disturbed concentration, or transient visual hallucinations on high doses; evidence of anticholinergic activity, such as tachycardia, dryness of mouth, blurring of vision, urinary retention, constipation, paralytic ileus; agranulocytosis; jaundice. The antidepressant activity may be evident within 3 or 4 days or may take as long as 30 days to develop adequately, and lack of response sometimes occurs. Response to medication will vary according to severity as well as type of depression present. Elderly patients and adolescents can often be managed on lower dosage levels.

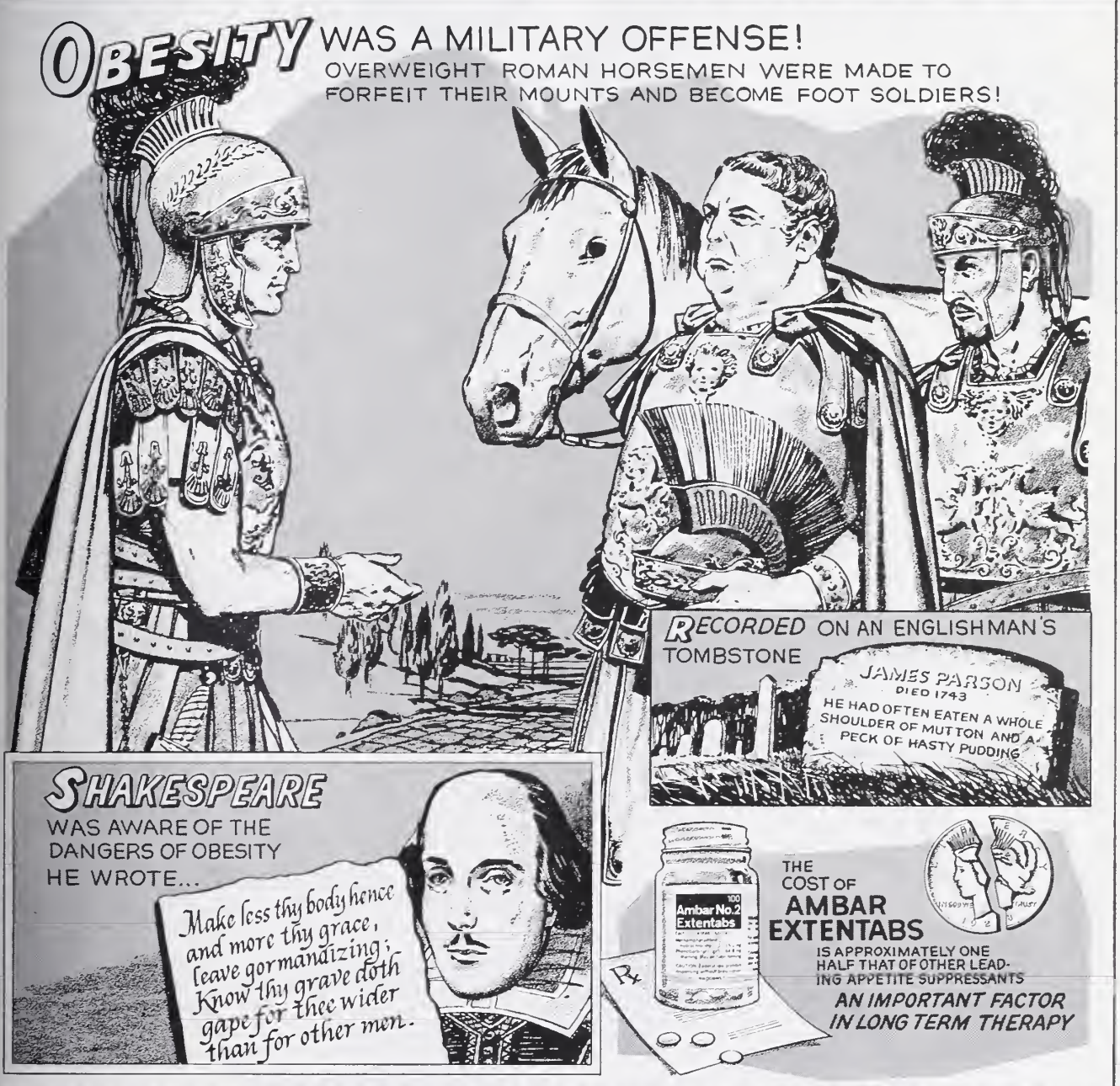
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methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

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"I'm sick of spinning"



When vertigo began, her life took a turn for the worse.
Either she spins and the room stands still,
or the other way around... and around and around.
Even when she lies down, the spinning
continues. Sometimes there's nausea and vomiting, too.
It's just one thing after another.

You can help stop the spin with

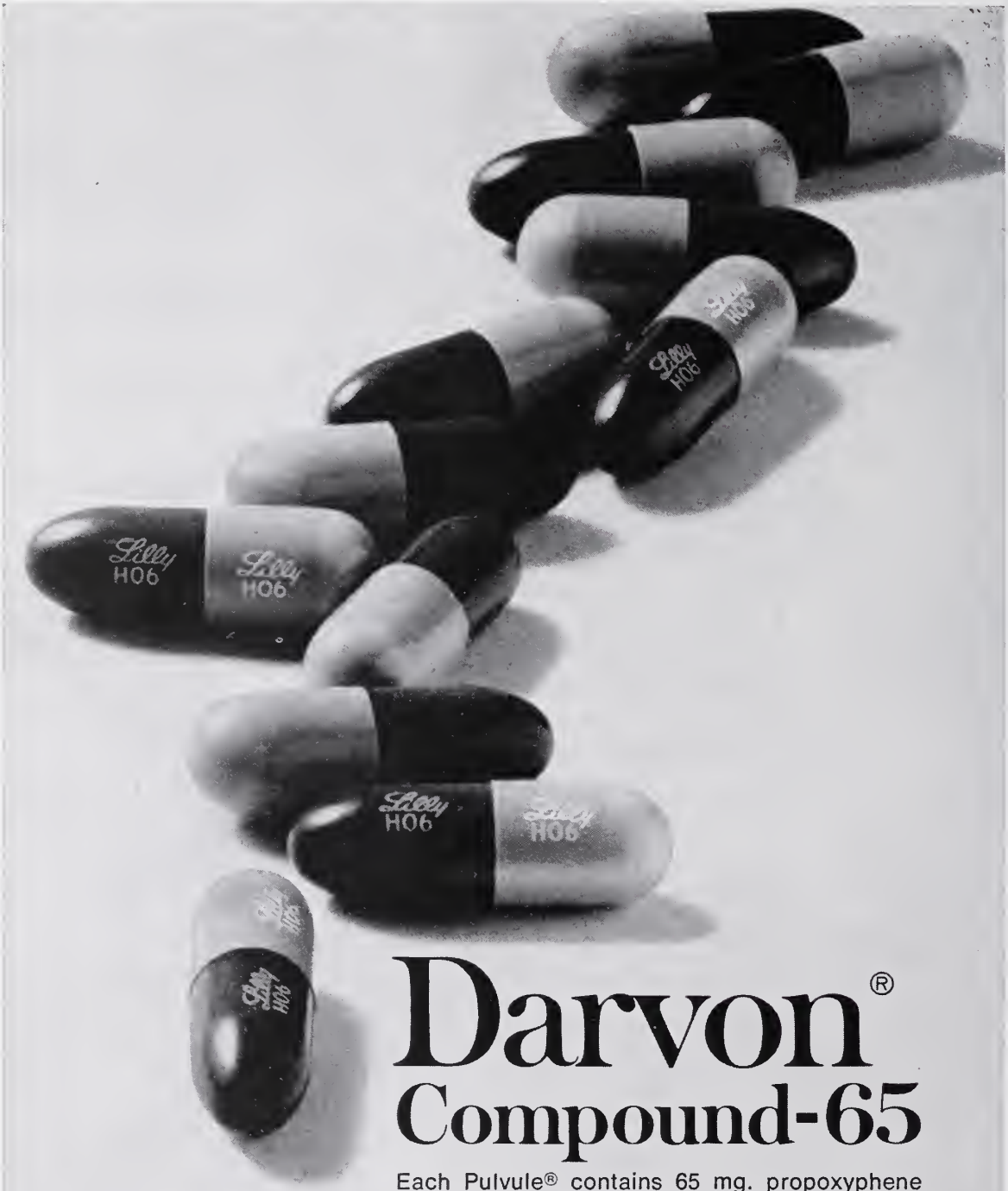
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Bonine protects most patients against vertigo and nausea up to 24 hours with a single dose. Pleasant-tasting Bonine tablets are chewable and can be taken anytime, anywhere, without water. In difficult cases, multiple daily doses may be necessary for maximum response.

Precautions: Although the incidence of drowsiness and atropine-like side effects such as dry mouth and blurring of vision is low, the physician should alert the patient to the need for due precautions when engaging in activities where alertness is mandatory. *Use in women of childbearing age:* In weighing potential benefits vs. risk in women of childbearing age, consider the fact that a review of available animal data reveals that meclizine exerts a teratogenic response in the rat. In one study a dose of 50 mg./kg./day (50 times the maximum recommended human dose) produced cleft palate in 2 of 87 fetuses when administered to the rat at critical times during the first 15 days of gestation. At doses of 125 mg./kg./day, meclizine will produce 100% incidence of cleft palate in the rat. At doses of 25 mg./kg./day, decreased calcification of the vertebrae and relative shortening of the limbs were also produced in the rat, but experts disagree as to whether this is a teratogenic response. While available clinical data are inconclusive, scientific experts are of the opinion that this drug may possess a potential for adverse effects on the human fetus. Consequently, consideration should be given to initial use of a nonphenothiazine agent that is not suspected of having a teratogenic potential. In any case, the dosage and duration of treatment should be kept to a minimum.
Supply: 25 mg. scored tablets.
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Each Pulvule® contains 65 mg. propoxyphene hydrochloride, 227 mg. aspirin, 162 mg. phenacetin, and 32.4 mg. caffeine.

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The Virginia
MEDICAL MONTHLY

September, 1969
Vol. 96, No. 9
Whole No. 1408

Guest Editorial....

Nursing Today

THE NEED OF PROVIDING the public with nursing service and setting the requirements of educating the nurses to provide such service have caused an unending upheaval in the nursing profession. In face of the many widening demands for health care, there should be a growing recognition of the importance of nursing services.

For some time the blame for poor nursing care has been laid to the shortage of personnel. Good nursing service is given by nurses who can perform their tasks at top efficiency. "Nursing care" is often determined by the number of nurses signing the time sheet. I refuse to think of a personnel shortage in this manner. Shortage might also lie in skills and not in numbers. A nurse whose competence is only two-thirds of a required level contributes one-third to the deficit in good nursing care. Staffing a nursing department in a hospital will be accomplished when we are supplied with adequately prepared nurses.

Our national nursing organizations and educators tell us now that these adequately prepared nurses should come from the two-year associate degree and the baccalaureate programs. It is the general feeling among the nurse-practioners trained in the traditional hospital school that the two-year graduate lacks experience in bedside care and ability to take charge of a floor or to act as a team leader. Thus, this person must spend her first year as an apprentice or intern. Nevertheless, she holds a license to practice nursing.

The nurse from the baccalaureate program comes to us as a paragon of theory. She can tell you numerous types of carcinoma of the colon—but can she care for a patient with a colostomy? Not likely, for the baccalaureate nurse was prepared for administrative and instructive nursing. Nor is it likely that we shall find her by the bedside. Of the five nurses with degrees employed in this hospital, only one is engaged in bedside nursing.

Unfortunately, today's degree program is not preparing the nurse to meet the needs of the patient. Those of us in bedside nursing today, mostly from the traditional hospital school, are in the best position to recognize whether these needs are being met, and we are not being heard.

Sadie Barton Snellings, R.N.

Mary Washington Hospital
Fredericksburg, Virginia 22401

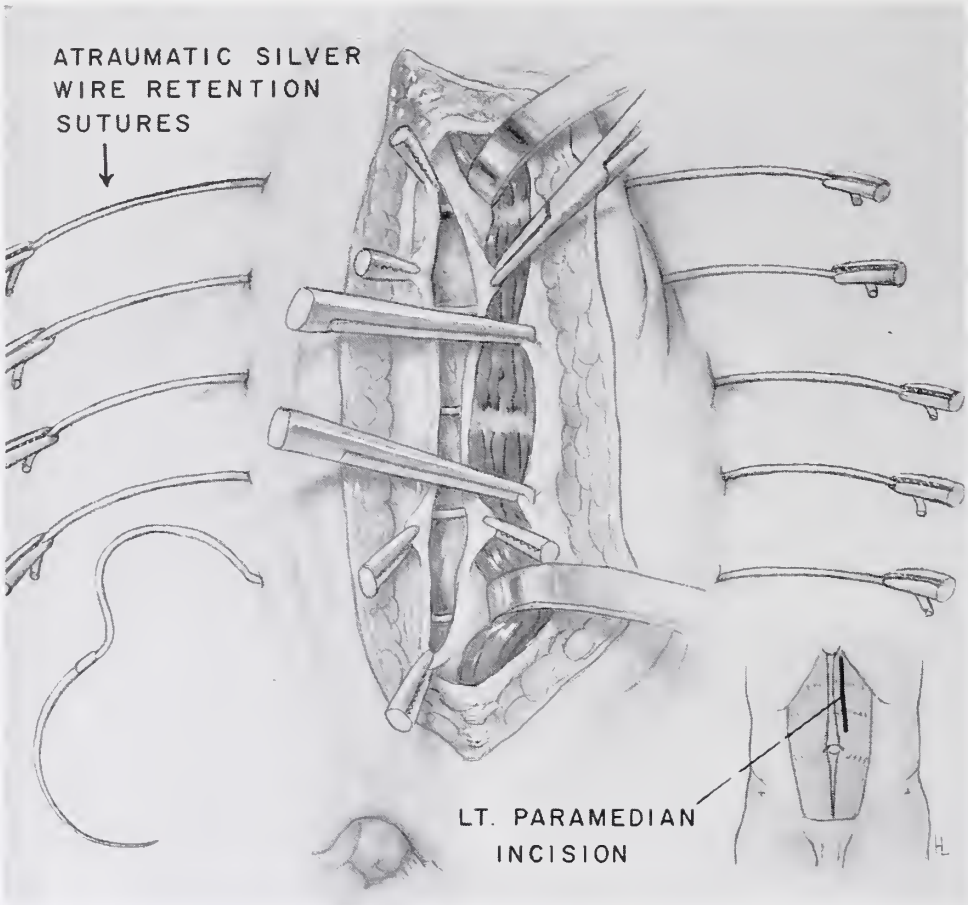


Fig. 3

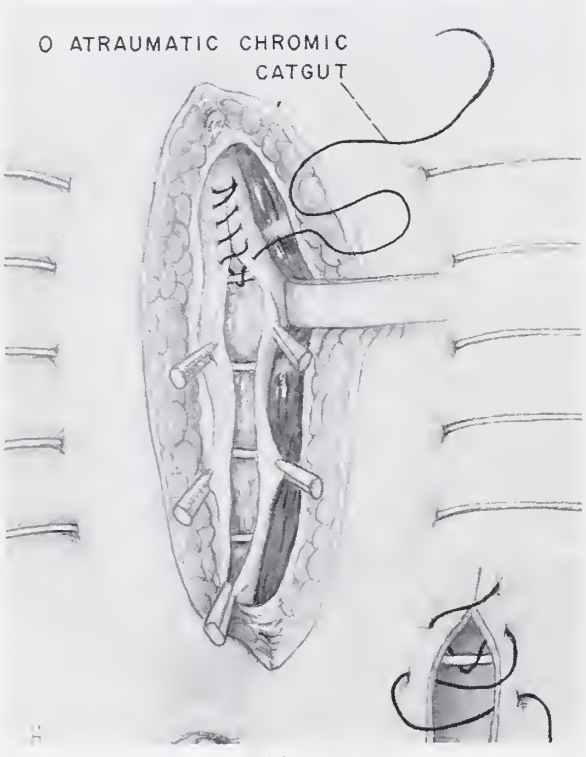


Fig. 4

disciplines of Halsted has some disadvantages. It is the opinion of many, including the authors, in spite of the publication of Cole and others, that steroid administration does have a deleterious effect on wound healing and increases the incidence of wound complications. When possible, we advocate two to three months of cortisone abstinence prior to surgery.

Perusal of the literature and observation on the surgical wards show frequent erroneous and improper use of retention sutures. Certainly, retention sutures are no substitute for high surgical standards. Improperly used, they may lull the unwary surgeon into less than best technique with an untoward calamitous result. Inaccurately placed, improperly tied or injudiciously removed, they represent increased liability, an invitation toward dehiscence, rather than toward se-

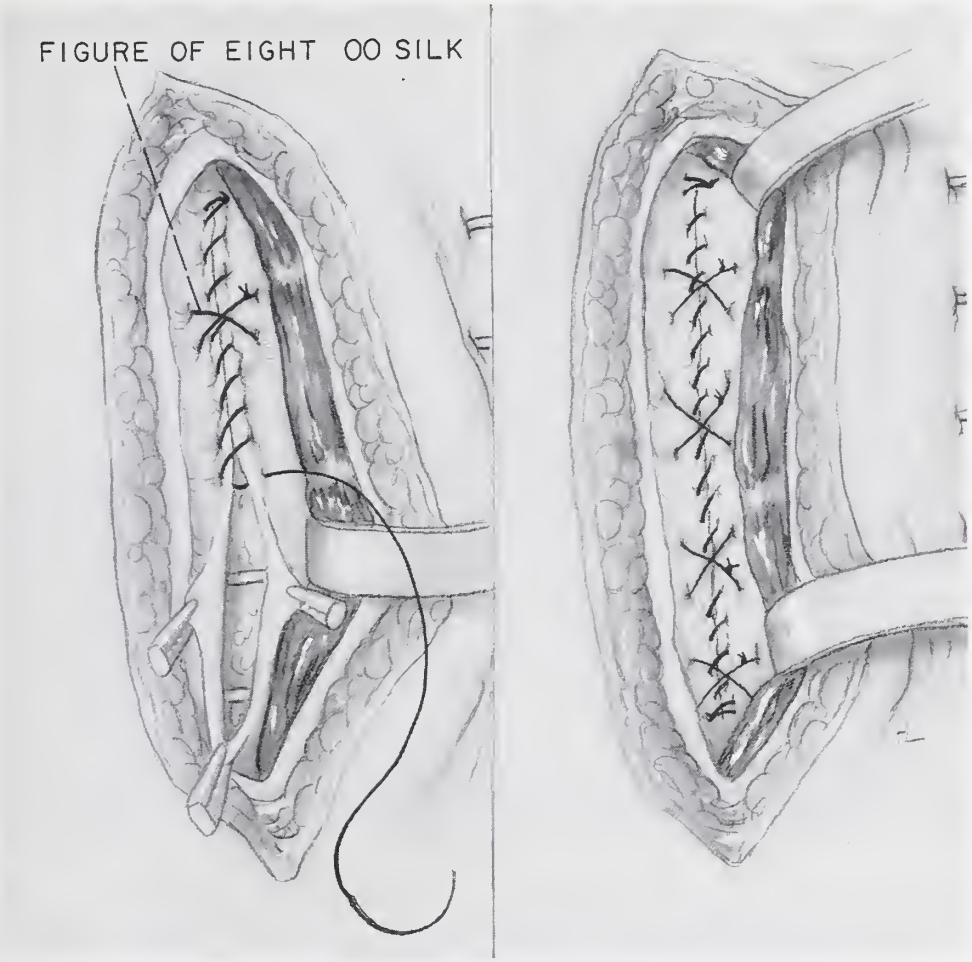


Fig. 5

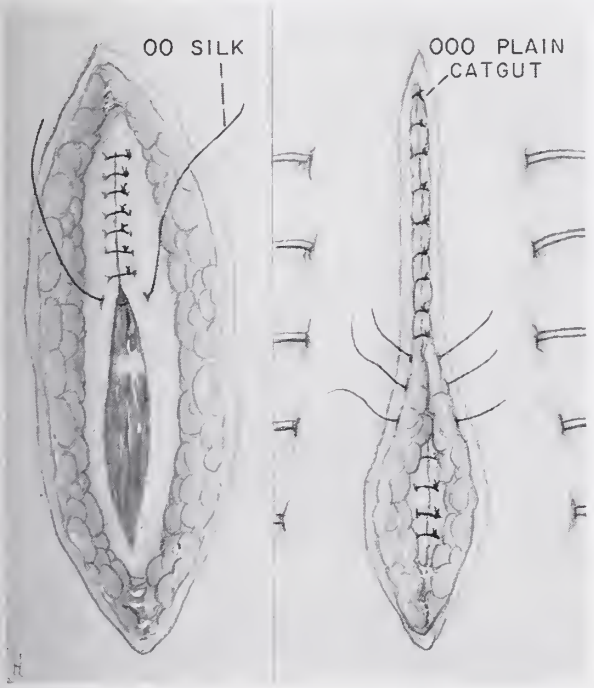


Fig. 6

cure healing. However, properly used, retention sutures are valuable.

A technique has been evolved using monofilament silver wire retention sutures with atraumatic cutting needle (made by Davis and Geck Company of .040 mm diameter, 18 inches in length) (Fig. 1) which we believe affords excellent protection against dehiscence provided it is used in combination with all other reasonable factors of pre and postoperative care, and with otherwise excellent surgical closure.

We insert the sutures one inch from the incision and one inch apart at right angles directly to the invision and through the entire thickness of the abdominal wall via the peritoneal cavity. (Fig. 2)

Care is taken to keep the retention sutures taut when tied so that loops of bowel may not become trapped between the intraperi-

toneal portion of the suture and the abdominal wall. A running suture of number 0 or

peritoneum centrally with two minimal lateral intraperitoneal loops. (Fig. 3 & 4)

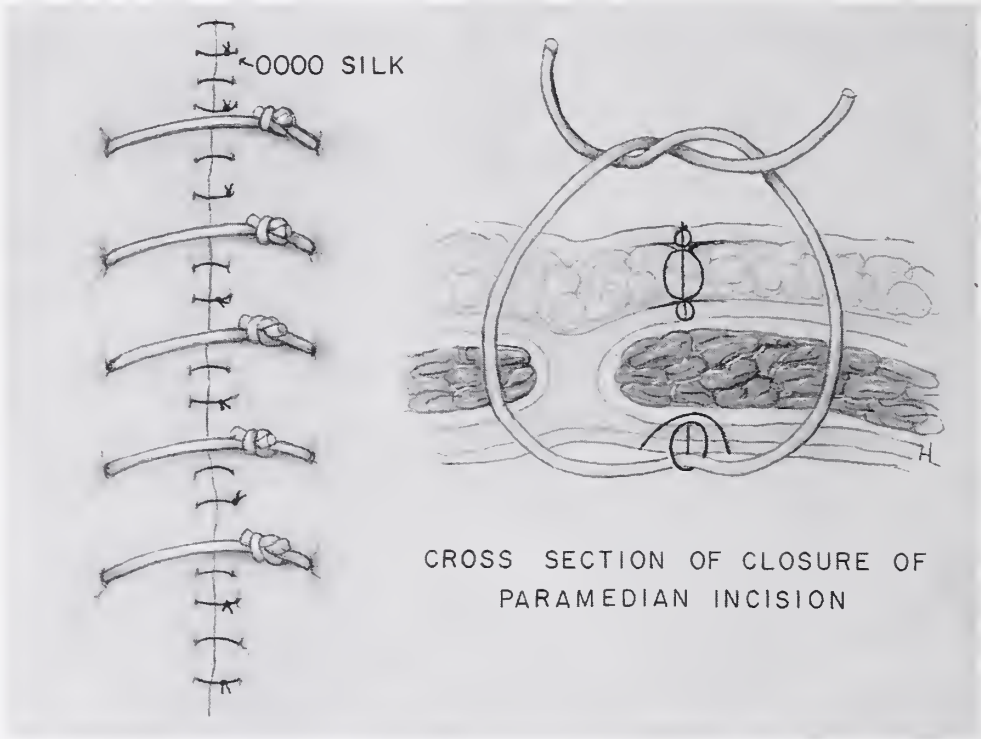


Fig. 7

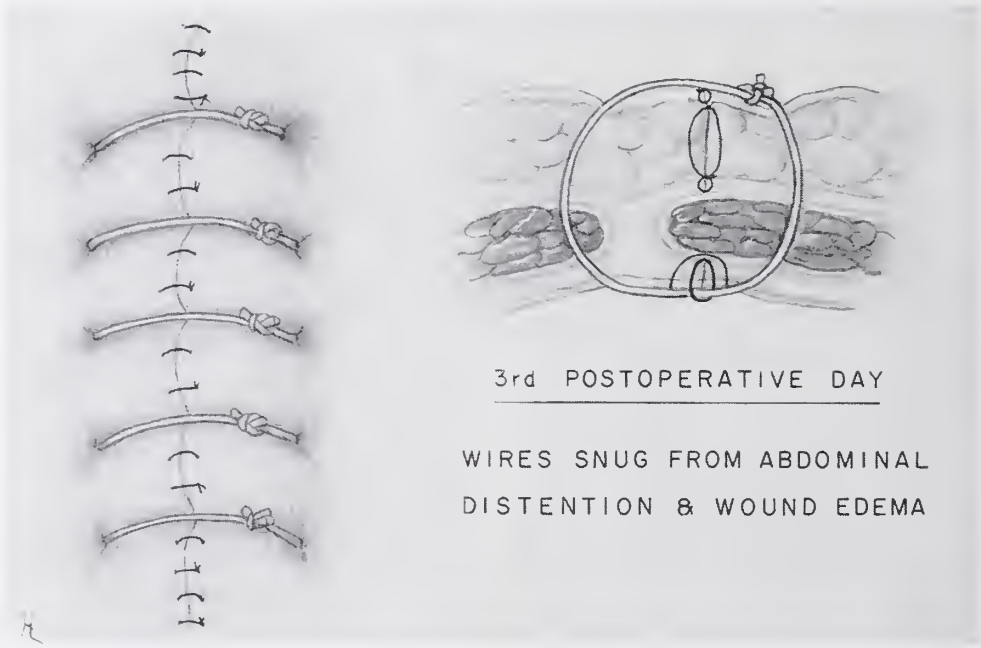


Fig. 8

number 1 chromic catgut which closes the peritoneum and posterior fascia carefully encircles and snugs the wires to the parietal

The closure of fascial, subcutaneous and skin layers is anatomical, precise and meticulous. (Fig. 5 & 6)

The retention sutures are tied squarely and snugly without bolus or jackets at the completion of closure of all layers and prior to cessation of anesthetic relaxation. The wire ends are cut flush with the knot. (Fig. 7)

The retention sutures are slightly tight for the next several days while wound edema is maximal. (Fig. 8)

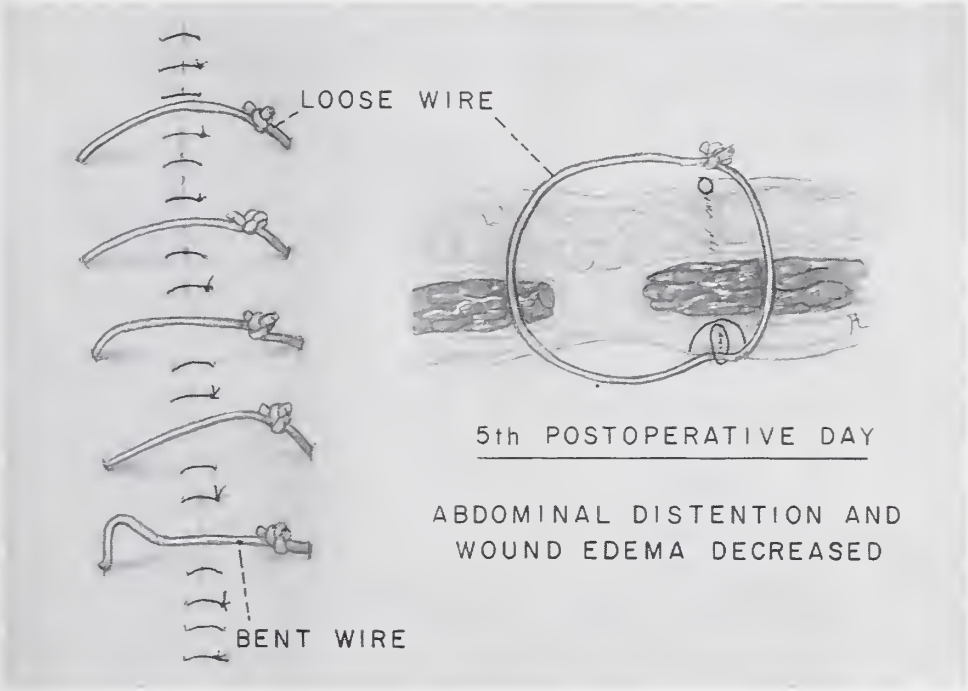


Fig. 9

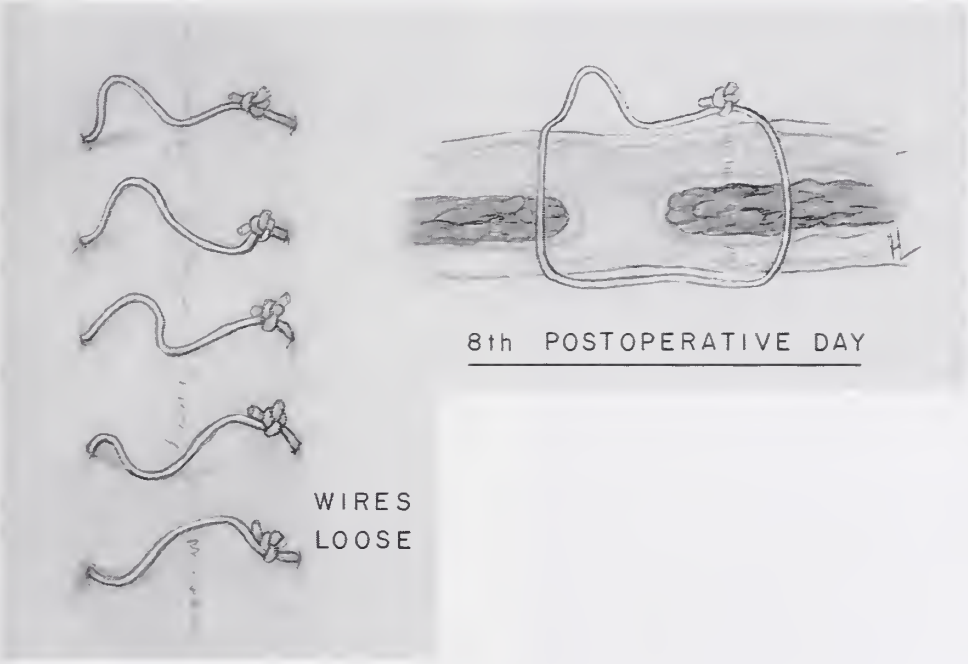


Fig. 10

The tensile adaptability of the wire permits the required tightening of the suture easily and appropriately by bending as

shown in figure 9 & 10 as intra-abdominal distention decreases and as thickness of the wound diminishes.

closure without looseness of the wire which might possibly permit the bowel to slip between the wire and the parietal peritoneum.

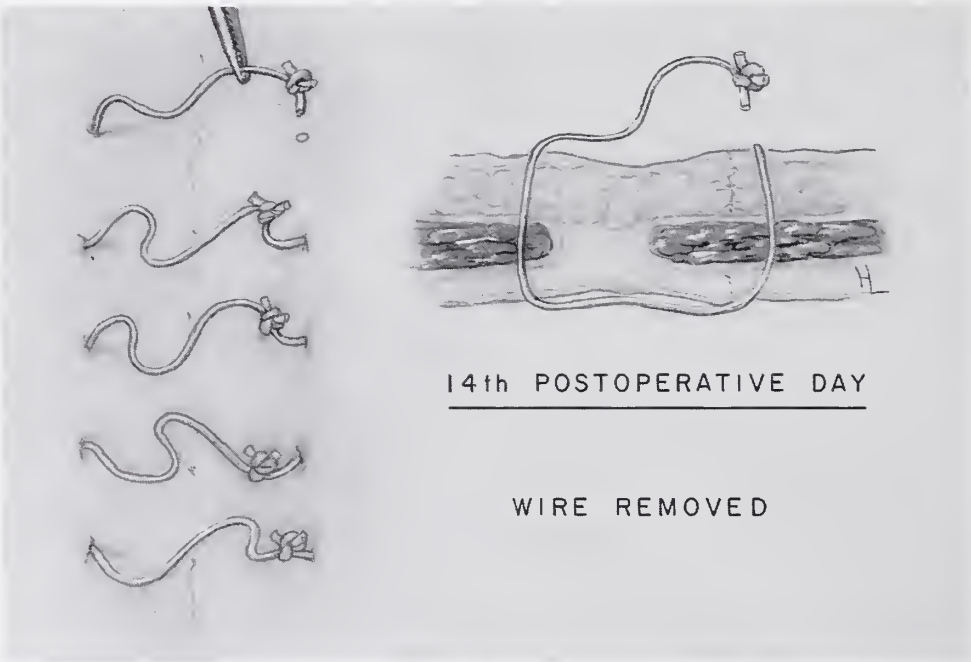


Fig. 11

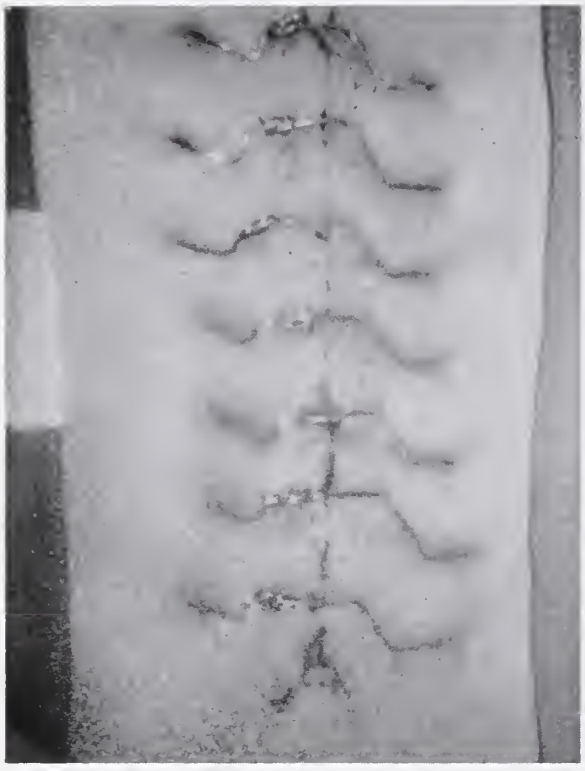


Fig. 12

The wires may be altered periodically as often as is necessary to maintain nice snug

Skin clips or skin sutures are routinely removed rather early since the skin usually adheres nicely with the added support given to it by the wires. If any fluid develops in the wound, it most often will drain freely and spontaneously but if manifest grossly, a hemostat is inserted under sterile conditions for evacuation.

We wish to emphasize the importance, in the technique described, of leaving the silver wire retention sutures postoperatively for about fourteen days. We feel that this allows maximum wound strength with minimum undesirable effects of the wire. Patients usually tolerate the wire sutures and the periodic tension adjustment with little discomfort.

Figure 12 shows appearance of a wound on 7th postoperative day with wires bent snug as abdominal distention and wound edema are minimal. Figure 13 is a photograph of a wound on the 14th day just after wires were removed.

In a moderate surgical experience of eleven years of surgical practice using this

method in practically all vertical laparotomy incisions in adults, the authors have had no dehiscences. In most laparotomies in pediatric surgery, the wires have been considered unnecessary but have occasionally been helpful. Since preparation of this paper, a sub-



Fig. 13

costal wound has suffered dehiscence and wires had not been used; so that use of wires to supplement the usual layer closure is planned in selected transverse incisions. In our area civilian and government hospitals, when the surgical residents have occasionally used this wire technique, we have experienced no disappointments.

The theoretical serious hazard of viscera becoming caught under the small relatively free intraperitoneal portion of the retention wire has not occurred in our experience.

Several disadvantages of the previously described technique are relatively minor i.e.: 1. increased pain to the patient on removal of the wires despite prior administration of sedative medication. 2. increased cosmetic disfigurement of the scar by the cross hatching effect of the wires.

This wire retention suture technique has several unique important advantages i.e.:

1. easy visualization of wound without interference of bolus, jackets, etc.
2. easy accessability of wound for evacuation of undesirable blood, fluid or pus without serious loss of overall wound integrity
3. easy adjustment of proper retention suture tension by bending of wires
4. easy total prevention of wound evisceration.

The incidence of long term postoperative incisional hernia is basically unchanged by the use of these wire retention sutures.

In spite of the impertinence of the title of this paper, the authors, of course, recognize no panacea for wound dehiscence. Religious attendance to no single factor can absolutely prevent wound disruption. It is relevant, however, to re-emphasize the necessity for careful attendance to all the multiples of pre and postoperative care which have been shown important for strong wound healing. Silver wire retention sutures carefully and accurately placed with tension periodically adjusted and left for a full two weeks, but not as a substitute for any of the other necessities of an adequate closure, will virtually eliminate the distressful complication of dehiscence.

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(References continued on page 525)

Acute Scrotal Swelling in Children

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The child with acute painful swelling of the scrotum requires early accurate diagnosis with prompt treatment.

THE CHILD with acute painful swelling of the scrotum may present a simple problem in diagnosis and therapy but often may tax the physician's acumen. The differential diagnosis should include:

(1) Torsion of the testicle
(2) Torsion of the appendix testicle or appendix epididymis (Hydatid of Morgagni)
(3) Acute epididymitis
(4) Acute hernia or hydrocele
(5) Trauma
(6) Tumor
(7) Orchitis
(8) Insect bite

The child with a hernia and/or hydrocele can usually be easily differentiated by history and physical examination. A history of trauma associated with pain and swelling should always be suspect since the trauma may have caused attention to be focused on the scrotum and there is some associated intra-scrotal condition not secondary to the trauma, such as a testicular neoplasm. Malignant tumors of the testicle, while rare in children, can occur and should not be overlooked. Orchitis, usually of viral etiology, does occur in the adolescent child but is unlikely in the prepubertal period. Insect bites of the scrotum can cause alarming degrees of swelling but can usually be differentiated by close inspection of the scrotal skin and identification of the puncture wound caused by the insect.

The most confusing lesions are torsion of the testicle, torsion of the appendix testis or epididymis, and acute epididymitis. The purpose of this paper is to present our experience from 1958 through 1967 (10 years) with these three conditions.

There were 27 patients with testicular torsion, five with torsion of the appendix testis or epididymis, and 12 with acute epididymitis admitted to the Medical College of Virginia during this period. Two patients with torsion of the testicle and one patient with torsion of the appendix epididymis were over age 15 and they are included.

Testicular Torsion

The majority of testicular torsions occur intravaginally. Normally the mesorchium reflected from the fixed surface of the testis does not allow the testis to rotate on its vertical axis. However, deviations in embryological development can result in elongation of the mesorchium or unipolar attachment of the epididymis which permits the testicle to hang freely in the tunica. Thus, the testis can rotate with twisting of the spermatic cord and resultant obstruction of the blood supply to the gonad.[1]

A history of the acute onset of pain was

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Presented at the annual meeting of The Medical Society of Virginia, Roanoke, October 1968.

present in the majority of our patients with testicular torsions but not in all (Table I). Swelling was present in all patients and lumination of the scrotal mass may be possible. Manual elevation and support of the involved gonad usually did not decrease the

TABLE I

	Testis Torsion	*Torsion Appendix Testis and Epididymis*	*Acute Epididymitis*
No. of Patients	27	5	12
Sudden Pain	19	3	3
Swelling	27	5	12
Urinary Symptoms	0	0	4
Age	2 days-19 yrs.	4 wks.-20 yrs.	3 wks.-15 yrs.
Side	R-13, L-14	R-3, L-2	R-8, L-4
Race	W-17, N-10	W-5, N-0	W-8, N-4
Fever	97°-101°F (16<100°F)	99°-101°F (2<100°F)	98.6°-104°F (2<100°F)
WBC	3,900-17,600 (21<15,000)	9,000-16,000 (2<15,000)	12,700-58,000 (5<15,000)
Urine	26 Negative	5 Negative	8 Pyuria

characteristically there was swelling and elevation of the affected gonad (Fig. 1). Elevation of the affected gonad occurs because pain but this is not a reliable test in differentiating torsion from acute epididymitis. Elevation of the scrotum in acute epididy-

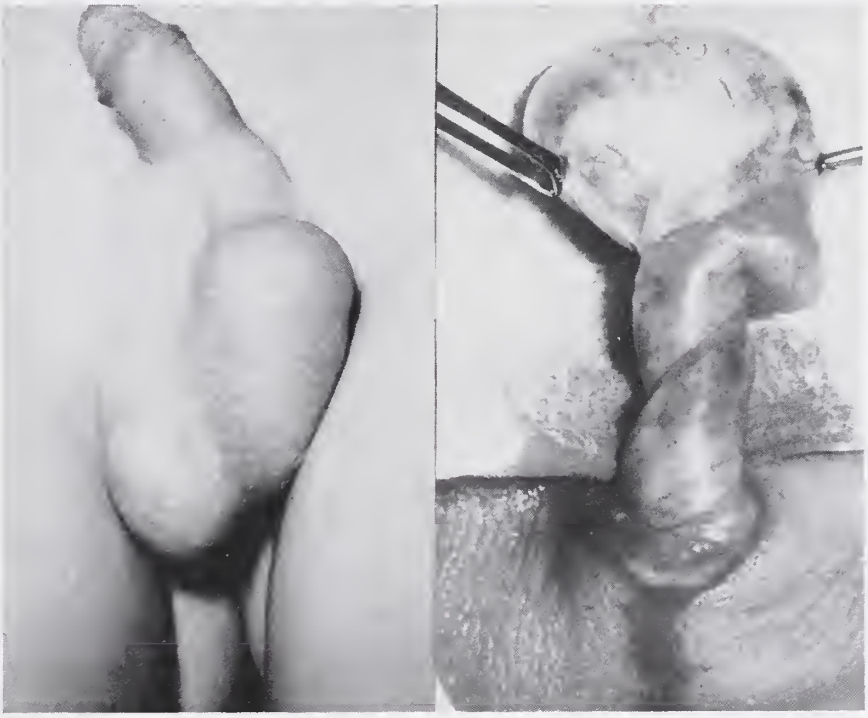


Fig. 1. (a) Preoperative photograph revealing swelling of left hemiscrotum with discoloration of the overlying skin. The intra-scrotal contents are higher than the uninvolved side. This is typical of torsion.
(b) Operative finding with the cord torted two complete turns.

of twisting and, therefore, shortening of the spermatic cord. There may be induration and redness of the overlying skin and transmitis may cause a decrease of pain (Prehn's Sign).[2]

There was no predilection for side affected

nor race. There were few signs of infection. The temperature was usually below 100°F and the white count was below 15,000. The urine was negative on microscopic examination and on culture.

There are three basic principles in the treatment of this disorder; the first is early diagnosis. Of the patients in which an early diagnosis was made correctly and who underwent therapy within six hours of the onset of symptoms all of the involved testes were saved (Table II). Twenty percent of

TABLE II

TIME INTERVAL OF SYMPTOMS BEFORE SURGERY AND TESTICULAR SURVIVAL IN TORSION

Time	*Number of Patients*	*Testis Survival*
½ Hr. to 6 Hrs.	8	8
6 to 12 Hrs.	9	7
More than 12 Hrs.*	10	2 Orchiectomy 9 Orchiectomy 1 Atrophy

*Torsion Appendix Testis—2.
Torsion Appendix Epididymis—2.

the patients who underwent surgery between six and twelve hours after the onset of symptoms lost the involved testicle. All of the testicles that remained torted for over twelve hours suffered irreversible changes and infarction. This is in keeping with the published experience of other authors.[3]

Secondly, the treatment is immediate surgical exploration. If the testicle is infarcted then an orchiectomy is indicated to decrease the morbidity of the disease. If the testicle is not infarcted it should be untorted and fixed to the posterior and lateral walls of the scrotum with two or three sutures of chromic catgut to prevent a recurrence of the torsion.

The third principle is that following fixation or excision of the involved testicle the opposite testicle should also be explored even though it is completely asymptomatic. As high as 90% of the patients with testicular torsion on one side will have the potential of testicular torsion on the opposite side.[4]

The following history represents how *not* to treat a patient with suspected torsion:

A 14 year old Negro male was admitted to a hospital elsewhere with a four day history of acute right painful scrotal swelling. He had been treated initially with enzymes and antibiotics for epididymitis. When his symptoms did not improve exploration of the right scrotum was carried out and a gangrenous testicle and torsion of the cord was found. An orchiectomy was performed but no exploration was performed on the opposite side. One year later he was admitted to the Medical College of Virginia Hospital with a four day history of painful swelling of his left testicle. Immediate exploration of his left hemiscrotum revealed a gangrenous left testicle and an orchiectomy was performed (Fig. 2).



Fig. 2-A. Operative finding of a black gangrenous solitary testicle. Notice the twisted spermatic cord above.

If this child had had prompt treatment with immediate exploration of his right testicle and fixation of his left testicle he would now have at least one testicle and probably two.

There have been only 56 cases of testicular torsion in the newborn reported until 1967.[5] Four of our patients underwent exploration for scrotal swelling within the first eight months of life and two of these were noticed to have an enlarged scrotum at birth. Due to the age, pain was not a presenting symptom and the diagnosis and therapy were

delayed. When exploration was carried out all four testes were torted and infarcted.

The early treatment of torsion allows the testicle to be salvaged and on follow-up examinations testicles so treated are found to be normal (Table III).

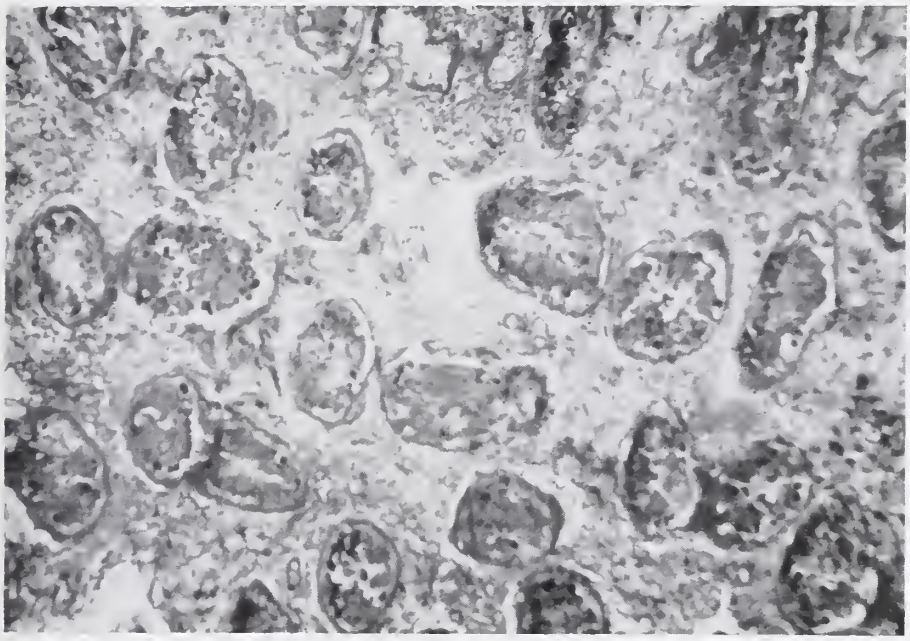


Fig. 2-B. Photomicrograph of this testicle showing necrosis of cellular elements.

TABLE III

FOLLOW-UP AT THREE MONTHS PLUS

	Testis Torsion	*Torsion Appendix*	*Epididymitis*
Surgically Absent	11	0	0
Atrophy	1	0	2*
Normal	14†	5	10

*Surgical exploration was not carried out in these two patients. The diagnosis may be incorrect and these may represent testicular torsion.

†There is no follow-up on one patient.

Torsion of the Appendix Testis and Appendix Epididymis

The Hydatid of Morgagni represents vestigial embryonic ovoid structures which are usually associated with the testis and epididymis. The appendix testis arises in the groove between the globus major of the epididymis and the testicle and the appendix epididymis is seen as a pear-shaped body attached to the globus major of the epididymis.[6]

Torsion of the Hydatid of Morgagni was first described by Colt in 1922 and by 1964 163 cases had been collected.[7] Torsion of the appendix testes or epididymis may be heralded by the onset of acute pain and swelling of the intra-scrotal contents. There is usually less pain and less swelling than with testicular torsions but it can be very difficult to differentiate. A history of recurring episodes of pain and swelling in the scrotum is frequently present. On physical examination one may occasionally be able to feel the painful swollen appendix (Fig. 3). Urinalysis and urine culture are again negative and there is little to indicate an infectious process. The white count is below 15,000 and the fever is below 100°. Even so, the associated inflammatory epididymitis that may occur may have some effect on future fertility. The treatment of suspected torsion of the appendix testis or appendix epididymis is again surgical with exploration and excision of the torted organ. The prognosis for the testicle is excellent. No changes were noted on physical examination three months following surgery.

Acute Epididymitis

Acute epididymitis is an acute inflamma-

tory of the epididymis, usually secondary to bacterial infection. There were 12 children 15 years of age and under who presented with acute epididymitis. Seven patients were seen with acute epididymitis before they had reached puberty and one of these



Fig. 3. Operative finding of acute torsion of appendix epididymis. Notice the swelling of the epididymis. It is infarcted but not gangrenous. A biopsy of the testicle was normal.

was three weeks of age. Eight of the patients had gross pyuria with bacilluria and characteristically the patients ran a febrile course with an associated leukocytosis (Table I).

On physical examination there is again marked swelling of the intra-scrotal contents. Usually the testicle can be differentiated from the markedly swollen epididymis and the testicle itself feels soft and of normal consistency. Anatomically, the epididymis lies posteriorly and, therefore, maximum tenderness to palpation of acute epididymitis is over the posterior aspect of the scrotum. A history of urological instrumentation and obstructive uropathy was present in two and was helpful in arriving at the diagnosis. If the diagnosis is firm the treatment is nonsurgical unless abscess formation occurs. Therapy entails antibiotics and bedrest with elevation and immobilization of the scrotum with adhesive tape. Again, if there is any doubt as to the diagnosis exploration is indicated. If exploration reveals epididymitis the intra-scrotal contents should be drained and the scrotum closed. Testicular atrophy may occur in epididymitis, but usually the testicle is normal on physical examination (Fig. 3). Fertility may be hampered with obstruction and scarring in the epididymis and vas deferens following infection.

TABLE IV

SURGERY PERFORMED

	Testis Torsion	*Torsion Appendix*	*Epididymitis*
Excision	11	5	0
Drainage	0	0	2
Fixation	15	0	0
No Surgery	1*	0	10

*The torsion was manually reduced.
The parents refused surgery and he has been lost to follow-up.

Conclusions

Acute painful scrotal swelling in children requires accurate diagnosis and treatment. It is extremely important to differentiate testicular torsion since treatment is a surgical emergency and delay may cause loss of the testicle. An important part of the treatment of testicular torsion is not only fixation of the torted organ but exploration and fixation of the opposite testicle. Intermittent torsion should be considered in the differential diagnosis of unexplained recurrent testicular pain and swelling in boys. Bilateral orchiopexy should be done on an elective basis on these patients if torsion is suspected.

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Pneumoperitoneum in Infancy

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Pneumoperitoneum in infancy due to gastrointestinal perforation is rare. When it occurs, however, it is usually fatal unless it is corrected by surgery.

PNEUMOPERITONEUM in infancy is a rare and in most instances, fatal occurrence.

The etiology of pneumoperitoneum in infants has been attributed to many different causes: Gastrointestinal perforation, and this in turn due to a congestion of the bowel, secondary to asphyxia, septicemia, congenital trauma, peptic ulcer, etc.; Congenital defects like diverticula, vascular insufficiency, meconium stasis, nervous system anomalies, etc.[1-4]

The most likely cause is a perforation of the gastro-intestinal tract (stomach, small or large bowel).

On many occasions no apparent cause for the perforation can be found.[2,3] Sometimes only gas escapes into the peritoneal cavity, but no liquids or solids, which has raised the theory of micro-perforations.[3]

As mentioned above the outcome is very poor unless prompt recognition of the lesion is established and adequate treatment instituted. The diagnosis is made by a great degree of alertness and roentgenographic studies in the supine and upright position. We would like to report a case with a successful outcome.

This infant male was born at 5:22 a.m. at term and was delivered as a persistent posterior, with middle-line episiotomy and low forceps after a labor of two hours and seven minutes. Penthane, nitrous oxide and oxygen were used for delivery. The child breathed and cried immediately and gave no indication of any trouble at this time. The child's mother was an eighteen year old white female, gravida two, para one, AO, who had experienced no difficulty during the prenatal period. She gained twenty-four pounds with this pregnancy but was treated the last two months with an appetite depressant. Past medical history showed only usual childhood diseases except for hypertension with her first pregnancy. Family history showed no evidence of hereditary diseases. Approximately six hours after delivery the infant's hands and feet were noted to be cyanotic and cold. There appeared to be no difficulty in breathing and child was placed in an incubator and oxygen at concentration of 32%. Cyanosis cleared and child appeared to be much improved. At approximately eighteen hours the infant's color was reported as pale and it was noticed that respirations were rapid at intervals. At twenty-six hours there seemed to be some muscle rigidity, respirations were rapid and a chest x-ray was ordered. The chest x-ray was obtained and revealed the lungs to be apparently normally expanded. The heart and mediastinum were not unusual. One significant finding, however, was the presence of free air within the abdominal cavity which appeared to be in a moderate amount.

An upper G.I. series was performed. The patient was allowed to swallow only a minimal amount of barium which mixed with the gastric contents. The patient appeared

to have a normal swallowing function. There was minimal delay in passage of the barium from the stomach into the duodenum. (Figs. 1, 2) On several of the spot films there appeared to be some deformity of the

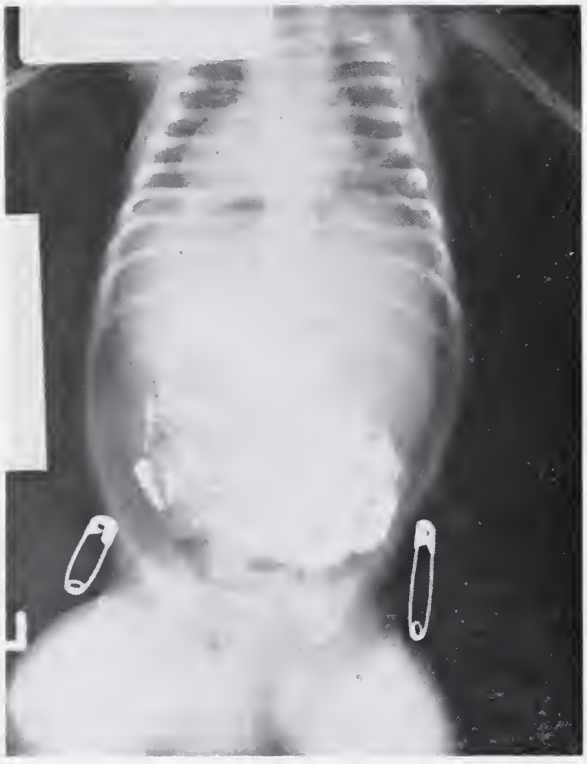


Fig. 1



Fig. 2

duodenal cap and on at least one film there was a small nipple-like projection compatible with a superficial ulcer. (Fig. 3) No barium was seen to enter into the peritoneal cavity however.

The patient was then seen in surgical consultation. Examination was essentially unremarkable. The chest was clear, heart showed no enlargement, no murmur. The abdomen was soft and full, there was no evidence of tenderness, no masses were palpated and the baby was reported to have had a small meconium stool. It was felt that this represented a perforated viscus which had resealed and it was recommended that the baby be watched. Approximately six hours later the baby had a slight temperature elevation to 100° rectally. Following, one-half hour later, there was another stool with a small amount of blood present. The child was given 20 cc's of 2½% dextrose and water solution subcutaneously. The temperature rose to 100.2° rectally, and the child was prepared for surgery.

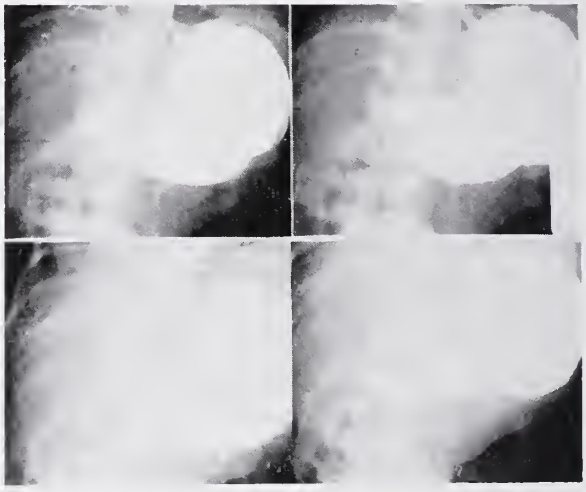


Fig. 3

At surgery the abdominal cavity was entered through a right paramedian incision.

(*Continued on page 580*)

Hodgkin's Sarcoma of the Small Bowel

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This rare condition was treated surgically and there were no postoperative complications. The literature is reviewed.

RECENTLY a patient presented at the University of Virginia Hospital with an interesting and rare manifestation of Hodgkin's disease. This case prompted a review of the literature, which includes very few cases of primary and solitary Hodgkin's disease involving the small bowel. Among these cases, Hodgkin's sarcoma is rarely to be found.

Case Report

This was the first University of Virginia Hospital admission for M. S., a 79-year-old white woman with a one-year history of intermittent nausea, vomiting, crampy abdominal pain, and a 75-pound weight loss. In October, 1967, the patient underwent a cholecystectomy at another institution, which revealed chronic cholecystitis. She continued to lose weight and, following another hospital admission, was referred to the University of Virginia Hospital and admitted on June 20, 1968. By this time, she had become bedridden, and the above-mentioned episodes had become much more frequent. She described crampy epigastric pain occurring a short time after meals and relieved by vomiting. She had noted increasing constipation for several months. There was no history of fever, chills, sweats, pruritus, cough, back pain, melena, or jaundice.

Physical examination revealed a moderately well developed white woman with normal vital signs and no remarkable physical findings. Specifically, there was no evidence of organomegaly, lymphadenopathy, or abdominal mass.

Laboratory examination revealed hematocrit, 37%; WBC, 10,300 per cu. mm. The differential was as follows:

Bands	Segs	Small Lymphs	Monocytes	Eosinophils	Basophils	Total
1	62	33	1	2	1	100

The platelet count was 448,000 per cu. mm. The stool benzedine test for occult blood was 4+ and 3+. Liver function studies revealed a BSP of 11% retention, normal alkaline phosphatase and bilirubin determinations, and a normal serum protein electrophoretic pattern. Barium study of the stomach and small bowel showed an almost complete obstruction of the distal jejunum. At laparotomy on June 26 a partially obstructing annular neoplastic lesion in the distal third of the jejunum was found. The margins and nodes were free of tumor, and no intra-abdominal lymphadenopathy was found. The liver appeared normal, and no liver biopsy was obtained. The pathological report was Hodgkin's sarcoma; three photomicrographs demonstrate the involvement of this patient's jejunum by the tumor. A lower power view magnified 35 x (Fig. 1) shows the entire bowel wall being invaded by tumor tissue, a higher power view magnified 240 x (Fig. 2) reveals the histology of this type of tumor, and third photomicrograph magnified 1375 x (Fig. 3), with an oil immersion lens, demonstrates a typical Reed-Sternberg cell.

There were no postoperative complica-

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tions. A repeat chest film and IVP were both normal, and the patient was discharged without further studies. In accordance with the recommended mode of therapy for localized or unifocal Hodgkin's disease, radiation to this patient's abdomen was considered. Because of her age, it was decided to give no radiation at this time and to keep her under close observation with frequent examinations.[1,2,3]

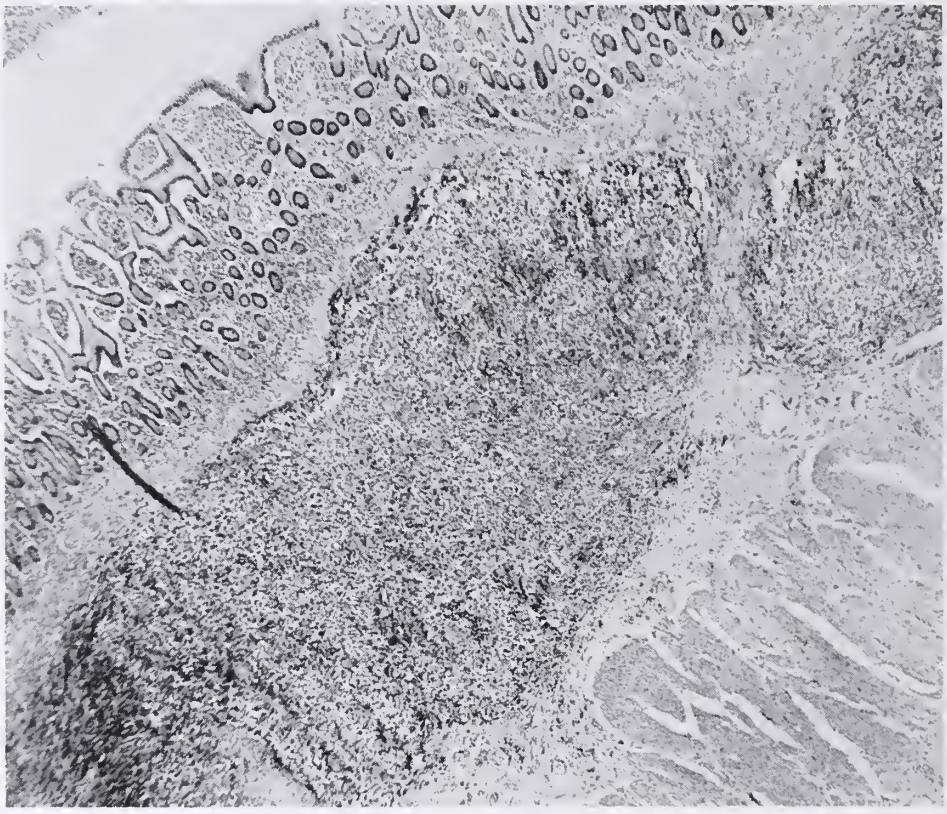


Fig. 1. A low power view magnified 35 x shows the entire bowel wall being invaded by tumor tissue.

Discussion

Hodgkin's disease frequently involves the gastrointestinal tract, most commonly by causing non-tumorous pathologic changes or secondary infiltration. In one series, 48% of cases had this type of involvement.[4] Primary involvement, on the other hand, is not nearly so common. Jackson and Parker recorded 174 cases of Hodgkin's granuloma, of which six were primary in the gastrointestinal tract. The stomach was involved in three of these cases, the cecum in two, the sigmoid in two, the duodenum in one, and the esophagus in one.[5] Portmann et al. found 45 cases of primary small bowel Hodgkin's in the literature and added one case of their own. The small bowel was involved as follows: duodenum—12.5%, jejunum or proximal ileum—55%, terminal ileum—20%, and primary involvement of the entire small bowel—12.5%.[6] Because these cases were not identified as paragranuloma, granuloma, or sarcoma, it is not possible to know how many cases of Hodgkin's sarcoma occurred. The duration of symptoms was less than three months in 37%, three to six months in 26%, and six to 24 months in 37% of their cases.[6] Small intestinal obstruction was the most common symptom, occurring in 18 cases.[7] The survival in this group of cases was far from encouraging; about 75% of patients were either untreatable or died shortly after surgery. Of those surviving laparotomy, many expired within six months. The longest post-

resection survival was five years, when the tumor recurred and a second resection was successfully performed.[7]

In another article dealing with primary solitary lymphoid tumors, the authors found an incidence of 0.9% of all malignant tumors of the GI tract.[8] In this series, there were 13 cases of Hodgkin's disease, four of these cases being primary solitary tumors in the small bowel. These cases were diagnosed surgically, and in none of the four cases of primary small bowel Hodgkin's were there lymph node metastases. Resection of the tumor was performed in three of the four patients with the following results: one was lost to follow-up, one developed postoperative peritonitis and died within a few days, and one was still alive two years postoperatively with no evidence of tumor recurrence.[9] Sternlieb et al. could find no recorded case of solitary Hodgkin's disease of the small bowel surviving longer than two years after surgical resection, even when no lymphatic metastases could be demonstrated at the time of surgery.[10] The only series found to mention specifically a single case of solitary Hodgkin's sarcoma of the small bowel is a series of 79 cases of solitary GI lymphomas resected at the Massachusetts General Hospital from 1913-1953.[11] No mention was made regarding the survival of this patient. At the University of Virginia Hospital, a series of 22 cases of primary tumors of the small bowel diagnosed from 1932-1958 failed to include a single case of Hodgkin's disease.[12]

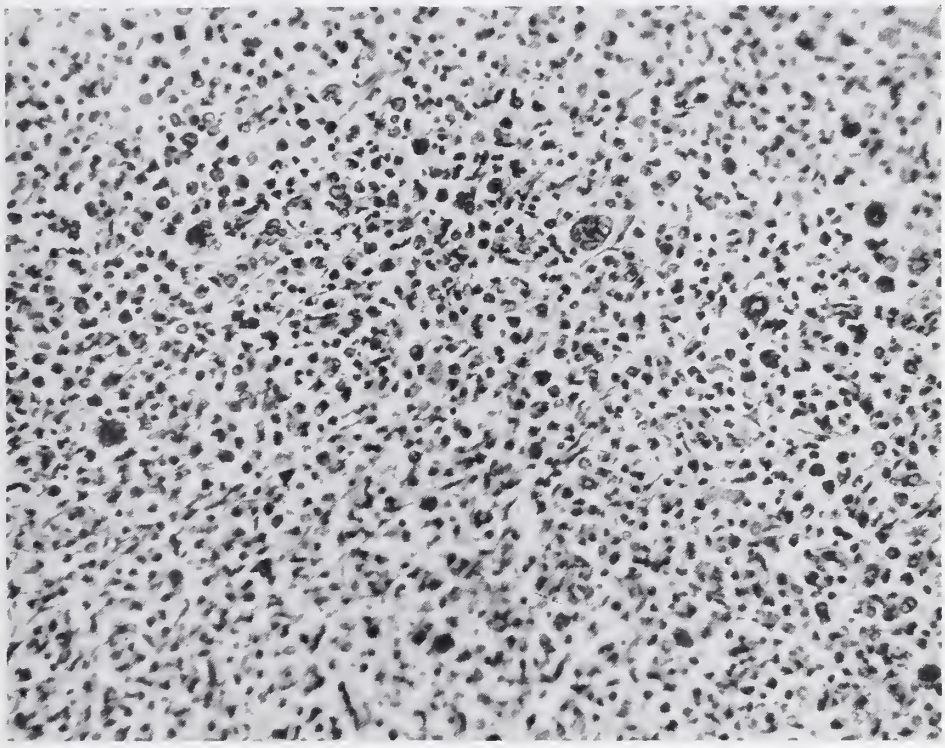


Fig. 2. A higher power view magnified 240 x reveals the histology of this type of tumor.

Jackson and Parker found that Hodgkin's granuloma almost invariably occurred in a single location when it involved the GI tract as a primary lesion and was often asymptomatic for an indefinite period of time, whereas with Hodgkin's sarcoma multiple involvement was not infrequent, and the lesions were almost always symptomatic.[13] Their series included six cases of Hodgkin's sarcoma with the colon being involved in four, the duodenum in three, the stomach in two, and the rectum in one. Multiple involvement occurred in three of these cases. A recent article by Ehrlich et al., concluded

that primary GI lymphoma was associated with a fairly good prognosis, whereas secondary involvement was a bad sign.[14] Moreover, with primary lymphoid tumors of the bowel it appears that neither multiple intestinal lesions nor regional lymph node involvement worsens the prognosis.[15]

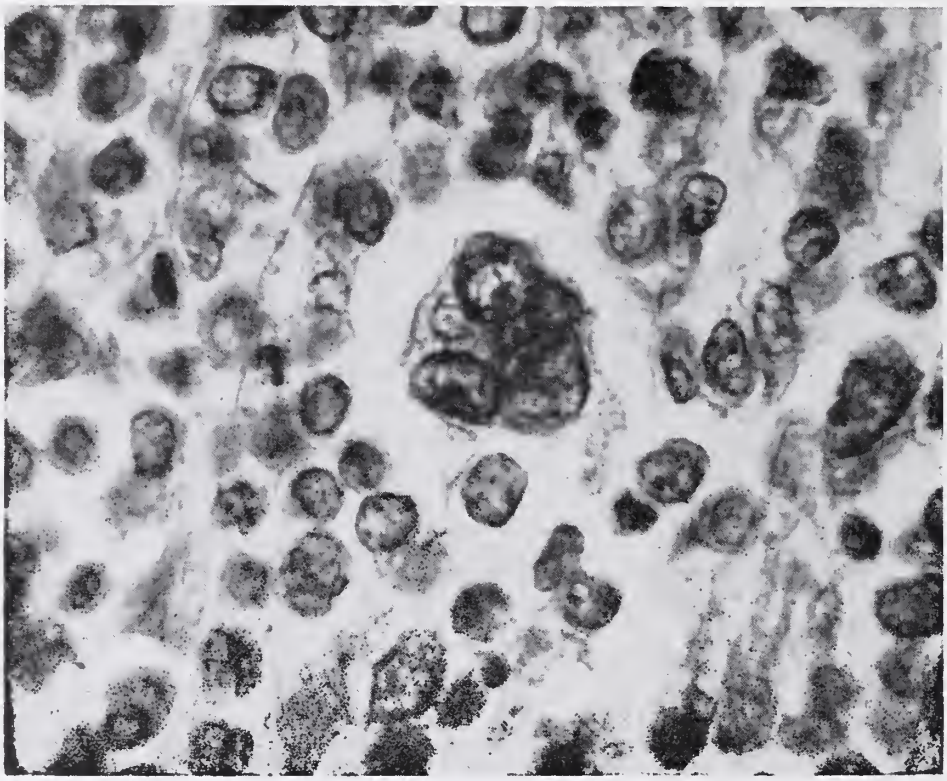


Fig. 3. A magnification of 1375 x with an oil immersion lens demonstrates a typical Reed-Sternberg cell.

Summary

A case of Hodgkin's sarcoma localized to the small bowel and occurring as a solitary tumor is presented. A review of the literature confirms the impression that this is undoubtedly a rare manifestation of Hodgkin's disease. There is some suggestion that Hodgkin's disease of the small bowel occurring as a solitary lesion affords a slightly better prognosis than disseminated Hodgkin's disease, but the overall survival rate remains discouraging.

Acknowledgments

I would like to express my appreciation to Dr. J. Shelton Horsley, III, who operated upon this patient, for his permission to report the case and for his helpful advice. I am grateful for the help of Dr. Julio Salcedo of the Department of Clinical Pathology in preparing the photomicrographs.

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NO MORE ABDOMINAL WOUND DEHISCENCES—Stokes-Old

(*Continued from page* 513)

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Rupture of Pulmonary Artery in Pulmonary Hypertension

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A case of primary pulmonary artery atherosclerosis with the formation of thrombi in the pulmonary vascular system and eventual rupture of the pulmonary artery is presented. Only two similar cases have been reported.

IN 1960, Brettell and Hermann[1] described two cases of spontaneous rupture of pulmonary artery in pulmonary hypertension and reviewed the literature on the subject. In their cases, the pulmonary arterial system was occluded almost completely by thrombi. The search of the up-to-date literature did not reveal any other such cases. The purpose of this paper is to report an additional case of rupture of the pulmonary artery with thromboses of the arteries in the lungs. This case was a clinical puzzle despite detailed clinical investigations. In view of the extreme rarity of the condition and the difficulty in diagnosing it antemortem, the clinical features and the autopsy findings are considered worth reporting.

Report of a Case

A white male, 51 years of age at the time of his death in 1963, had been well investigated for worsening chest symptoms. He had dysentery twice in 1943 and was treated for syphilis in 1944. From 1944 to 1946 he served in the army in Europe. In 1946 he was discharged from the army after he had gastro-intestional hemorrhages which were associated with enlarged spleen. After investigations, peptic ulcer was excluded, and the diagnosis of splenic anemia was made. He was subject to recurring attacks of bronchitis and pneumonia. For three years he suffered from dyspnea and substernal pain radiating round to the back and into the arms. In 1951 he was admitted to the hospital with pneumococcal pneumonia. While he was in the hospital he had an episode of severe melena, but the barium meal and enema were negative. With the findings of low total protein (5.5 G.%) and with the reversal of the albumin-globulin ratio (2.5 G.% : 3.0 G.%), the diagnosis of liver disease was made. At a clinic attendance in January 1952, his general condition was good. In May 1954, he was again treated for pneumonia. After the infection was cleared, an x-ray of the chest revealed considerable prominence of the pulmonary conus and both main pulmonary arteries, with possible enlargement of the right ventricle. He did not see any doctor for about three years. In January 1957, he was seen at a clinic and was admitted to the hospital for further investigation. Clinically, he was found to have a basal systolic murmur with a split second heart sound. The electrocardiogram revealed a right bundle branch block, the fluoroscopy showed hilar dance, and the x-ray of the chest showed further enlargement of the main pulmonary arteries and accentuated prominence of the pulmonary conus. The diagnosis of atrial septal

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defect with a left to right shunt was made. In September 1959, he was again admitted to the hospital with difficulty in breathing and pain in the chest. He was found to have an abscess in the upper lobe of the left lung; this responded satisfactorily to antibiotics. In view of the cyanosis, finger clubbing, mild precordial systolic murmur, markedly accentuated P_2, and the radiological evidence of the pulmonary hypertension, cardiac cathetrization was done. The pressures by electromanometry were: Pulmonary artery 75/37 mm. Hg., Right ventricle 75/0 mm. Hg. Right atrium 4 mm. Hg., Right brachial artery by auscultation 95/80 mm. Hg. The analysis of blood samples revealed arterial desaturation. Now the diagnosis of ventricular septal defect with a balanced shunt was made. The x-ray of the chest taken in February 1962 clearly shows evidence of pulmonary hypertension (Fig. 1). At a clinic visit in March 1962

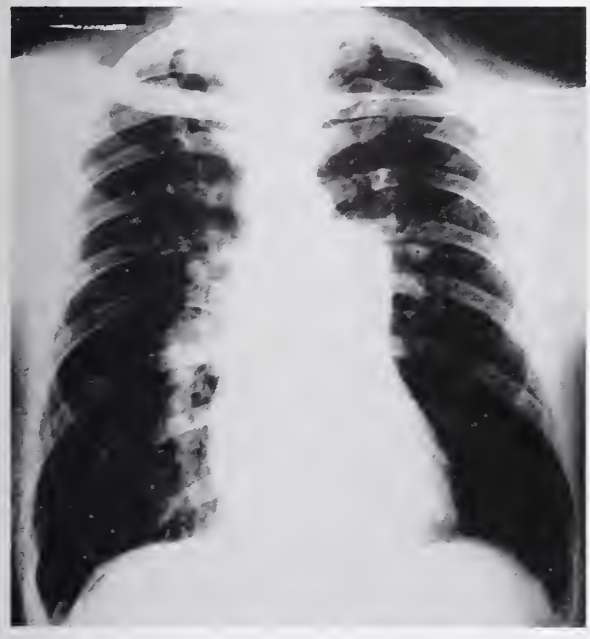


Fig. 1. Roentgenogram (Feb. 1962) of chest showing prominent pulmonary conus.

he still had pain in the chest, cyanosis, polycythemia with a localized systolic murmur at the apex and over the lower area of the precordium. The pain in the chest was thought to be due to "cardiac ischemia or right ventricular hypertrophy". At another clinic attendance in November 1962, he complained of increasing breathlessness and angina. At this examination he had soft systolic murmur to the left of sternum with a loud P_2. No thrill was felt and the EKG continued to show the right bundle branch block (Fig. 2). He last attended his doctor

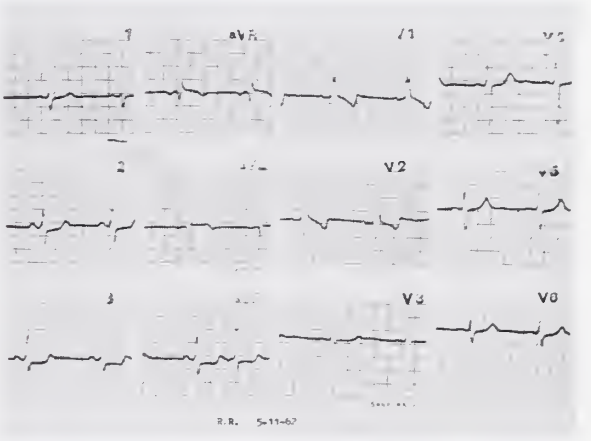


Fig. 2. Electrocardiographic tracing (Nov. 1962) showing right bundle branch block.

on April 12, 1963, for a check up when he complained of intermittent breathlessness and pain in his chest. He worked as a cleaner and apparently was all right when he came home from work on a night shift on June 1, 1963. A few minutes later his wife found him dead lying in the backyard of his home.

Autopsy findings: Gross examination—The body was that of a middle-aged man of average build. The external examination was unremarkable. When the thorax was opened, the pericardial sac was found to contain 650 cc. of liquid and clotted blood. The heart was enlarged and weighed 425 grams. The superior and inferior vena cavae opened normally into the right atrium which was slightly dilated. The tricuspid valve was moderately thickened. The right ventricle was greatly hypertrophied, measuring 11 mm. in thickness; it was not appreciably dilated. The pulmonary valve had three normal cusps, but its orifice was dilated and the pulmonary trunk immediately above was widely dilated, its circumference being 10 1/2 cm. There was a tear, 5 cm. long,

through its posterior wall, extending from a point 2 1/2 cm. above the rim of the left posterior cusp upwards and to the right into the posterior wall of the right pulmonary artery (Fig. 3). Blood had escaped

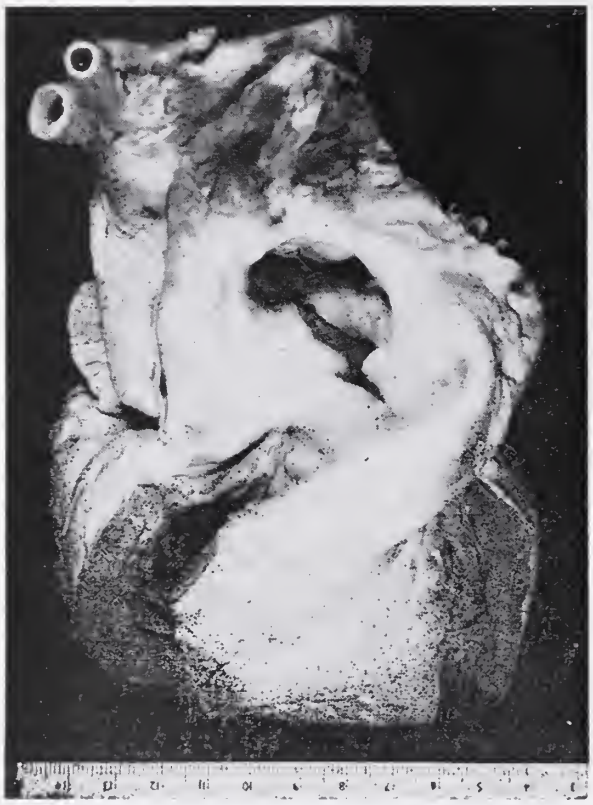


Fig. 3. Photograph of heart showing tear in the posterior wall of pulmonary artery. Note marked hypertrophy of right ventricular wall.

into the pericardial sac through this tear. No dissection of the vessel coats was seen. There were patches of opaque-white thickening, up to 1/2 cm. in diameter, on the inner aspect of the trunk and still larger patches were seen in the main pulmonary arteries. There was a laminated clot, about 3 1/2 cm. in diameter, adherent to the right wall of the left pulmonary artery immediately distal to its origin. When the clot was removed, the wall of the artery was found to be ulcerated. The left atrium was normal. There was no interatrial septal defect. The mitral valve was moderately thickened. The wall of the left ventricle was somewhat fibrotic. It measured 10 mm. in thickness near the base and 3-4 mm. near the apex. The ventricular cavity and the chordae tendinae were normal. There was no ventricular septal defect. The aortic valve was normal. The wall of the aorta was thickened due to slight atherosclerosis but its circumference was normal. The coronary arteries were normal.

The lungs were heavy, dark-gray in color and slightly emphysematous. Except at the margins, the tissue was firmer than normal. The main trunks of the pulmonary arteries were dilated and contained organizing antemortem blood clots (Fig. 4). The smaller

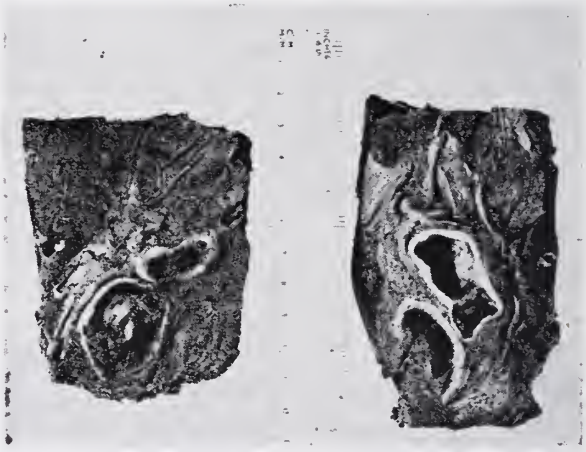


Fig. 4. Photograph of gross section of each lung near hilum showing thrombi in the main pulmonary arteries.

pulmonary arteries were also dilated, thickened and prominent, and some of them contained antemortem blood clots. Sections of the lungs revealed large firm areas probably of infarction. The bronchi were thickened, and contained thick whitish fluid. There was no obvious pneumonia.

The liver was smaller than normal and weighed 1000 grams. It was of purplish color and had uniformly nodular surface. On section the tissue was fibrotic and it cut with resistance. The spleen was enlarged and weighed 665 grams. It was congested, but otherwise normal. The rest of the organs were normal.

Microscopic examination—In the portions of the pulmonary trunk and its branches which showed pathologic changes, the adventitia was greatly thickened and fibrotic and contained collections of chronic inflam-

matory cells including occasional plasma cells. There were degenerative changes in the media of the type seen in the medial degeneration of aorta. The intima showed atherosclerotic thickening with adhering



Fig. 5. Photomicrograph of section of artery near tear. Section shows thrombus adhering to the intima, seen in lower part of the photograph (x160).

thrombi in the ulcerated areas (Fig. 5). The main pulmonary arteries on both sides were blocked by organizing thrombi.

The lungs were congested. The pulmonary arteries in both the lungs were thickened and contained antemortem thrombi, some of which were recanalized (Fig. 6). There were large areas of pulmonary fibrosis due to healing of infarcts. Pigment-filled macrophages were scattered in the tissue. No recent infarct or pneumonia was seen.

The liver was congested. The cells in the central zone showed degenerative changes; some had lost their nuclei and had a hyaline cytoplasm giving a coarsely granular appearance, whilst occasional ones were vacuolated from fatty degeneration. The cells in the intermediate zone also had a coarsely granular cytoplasm and showed fatty degeneration. The cells in the peripheral zone were either normal in size or slightly swollen. The sinusoids were dilated, and there was a moderate amount of fibrosis between the lobules. The appearances were those of cirrhosis (Fig. 7). No significant changes were seen in the sections of any of the other organs.

Comment

Atherosclerosis of the pulmonary artery is fairly common but its rupture is extremely rare. In 1935, McNaught and Dock[2] reviewed the subject of the rupture of the pulmonary artery. They found only two cases in the literature and reported one of their own. Five more cases were reported between 1935 and 1960 (Brettell and Hermann, 1960). In all of these cases no thrombi were found in the pulmonary arterial system. The two cases reported by Brettell and Hermann and the present case fall in one distinct group in which the rupture of the pulmonary artery was associated with multiple thrombi in the pulmonary arteries.

Bowden (1962) described a case of rupture of the pulmonary artery due to dissecting aneurysm.[3] In his case, which was associated with coarctation of aorta, patent ductus arteriosus and ventricular septal defect, the pulmonary artery was atherosclerotic, but no medial degeneration was noted. Whereas in most reported cases the

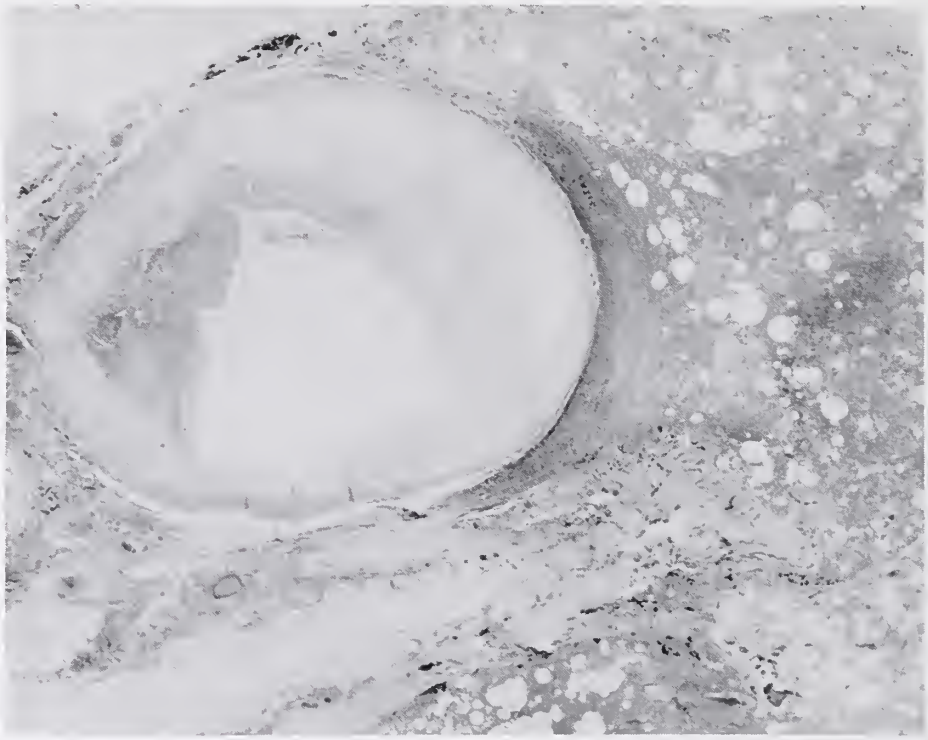


Fig. 6. Photomicrograph of section of lung showing irregular atherosclerotic thickening of pulmonary artery with thrombus partially occluding lumen (x160).

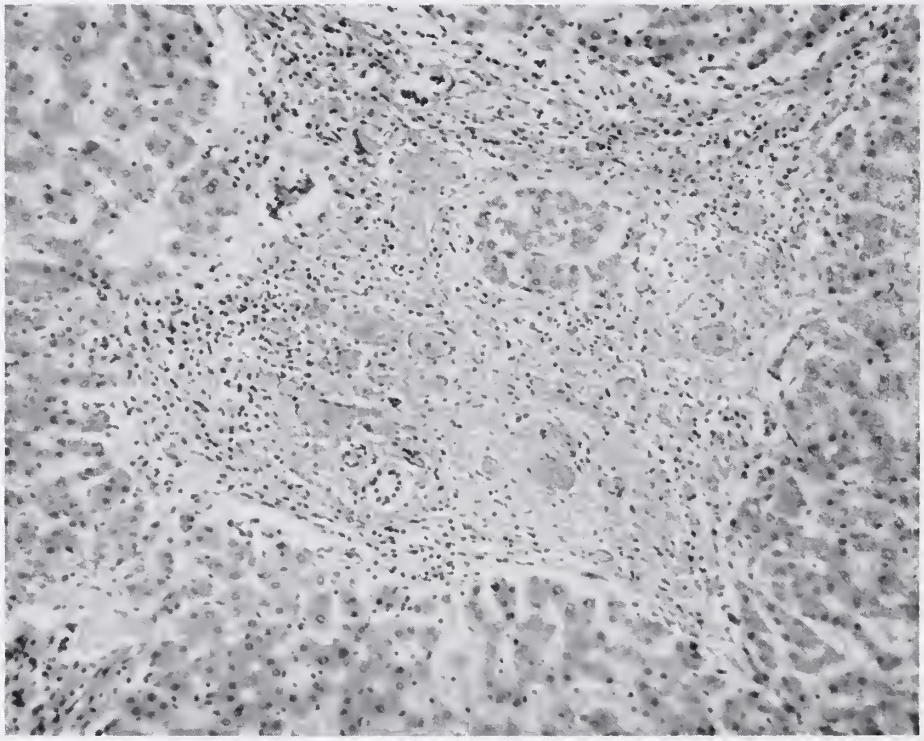


Fig. 7. Photomicrograph of liver showing cirrhosis (x100).

rupture of the pulmonary artery was associated with patent ductus arteriosus or rheumatic mitral stenosis, neither type of heart disease was found in the present case and in the cases of Brettell and Hermann. The pathologic findings in the present case indicate that the rupture was directly due to primary atherosclerosis of the pulmonary artery. Although medial degeneration was present, there was no dissection of the wall of the artery. In all cases of this kind, pulmonary hypertension plays a significant part in the causation of the rupture of the artery. Pulmonary hypertension, however, is a secondary precipitating factor. The basic lesions, like atherosclerosis and the formation of thrombi, are responsible for the development of pulmonary hypertension. The presence of medial degeneration in the artery is, of course, more likely to hasten the rupture of the artery in cases of pulmonary hypertension.

The signs and symptoms in this case, broadly speaking, were those of chronic ob-obstructive pulmonary disease. The episodes of pain in the chest were probably related to thromboses in the pulmonary arteries. The two attacks of pneumonia and a lung abscess are considered secondary to pulmonary infarctions. Pulmonary hypertension was no doubt present, and it accounts for the clinical symptoms of angina and dyspnea and for the x-ray and electrocardiographic changes and the cardiac catheterization results obtained. The severity of the pulmonary hypertension increased with the progression of obstruction of the pulmonary arterial circulation to a point when the artery ruptured.

Summary

A case of primary pulmonary artery atherosclerosis with the formation of thrombi in the pulmonary vascular system and eventual rupture of the pulmonary artery is presented. The clinical features and the autopsy findings are described. In cases of chronic pulmonary hypertension with recurring chest symptoms, this condition should be considered in the differential diagnosis. Rupture of the pulmonary artery should be considered among the causes of sudden death.

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Clinicopathological Conference . . . .

Lung Lesion and Focal Neurologic Signs

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Clinical History

This white former laborer was 72 years old at the time of his death. He was first seen in 1960 with back pain and a chronic cough; he had smoked a pack of cigarettes a day for many years. The diaphragms were flattened on physical examination and chest film. Predicted vital capacity was 3437 cc. and measured was 4037 cc.; maximal breathing capacity predicted was 81.7 liters per minute and measured was 57.9 liters per minute. He was declared disabled because of emphysema and lumbar osteoarthritis.

He did well with only occasional clinic visits until 1964, when he was admitted because of pneumococcal left lower lobe pneumonia and septicemia; a myocardial infarction was suspected. Tracheotomy was required after he became comatose; there were no localizing neurologic signs and cerebrospinal fluid was normal. He gradually improved and was discharged. However, because of incomplete resolution of the pneumonia, bronchoscopy was done three weeks later. The examination was normal, cultures were negative, and washings showed Class II-III cytology.

He was seen only occasionally thereafter until August 17, 1968, when he came to the Emergency Room cachectic, disoriented, and febrile, "with cigarette stains on his clubbed fingers". Breath sounds were decreased in the right base with dullness there. Neurological examination was negative except for bilateral extensor plantar responses. Chest x-ray (Fig. 1) showed a right lower lobe



Fig. 1. Chest x-ray taken August 17, 1968.

pneumonia with effusion. White blood cell counts ranged from 23,000 to 38,000 per cu. mm. Sputum initially grew D. pneumoniae and Staphylococcus aureus, and

both were treated appropriately. Multiple sputum collections revealed Class I-II cytology. Bronchoscopy showed only moderate hyperemia, and cell blocks and cultures were negative. He remained quite feeble and fell in the bathroom sustaining a small occipital hematoma five days before discharge. Neurologic examination was normal then, and plantar responses were noted to be flexor. He was discharged on September 19, 1968, with the right lower lobe infiltrate unresolved.

At home he became weaker, and he was seen in the Emergency Room because of dizziness, unsteadiness, and difficulty with vision, not further described. Physical examination was unchanged, and neurologic examination again revealed no localizing signs. Plantar responses were flexor. When confusion and left sided weakness developed later, however, he was re-admitted on September 26, 1968.

Blood pressure was 98/60, pulse was 100 and regular, and temperature was 37 degrees C. He appeared wasted and sick with no significant change in his general physical examination. The pupils were equal and reacted well to light and accommodation. The optic disk was flat on the right and not seen on the left because of cataract. The neck was supple with ++ carotid pulsation bilaterally. The chest was as before. The heart was not enlarged, and there was no arrhythmia, murmur, or gallop. No tremor was present. A left hemiparesis was noted. Cranial nerves were difficult to evaluate but there was a question of a left visual field cut. There was no facial weakness and gag reflex was intact bilaterally. There was no grasp, snout or suck reflex. Deep tendon reflexes were ++ on the right and + on the left, with bilateral extensor plantar responses.

The white blood cell count was 50,000 per cu. mm. with 65% and later 92% segmented forms. Hematocrit after hydration was 37%. Chest x-ray (Fig. 2) was essentially unchanged. A lumbar puncture revealed an opening pressure of 70 mm. of water and clear colorless cerebrospinal fluid. There were 360 red blood cells in the first tube and 230 in the 4th tube; no white blood cells were seen. Protein content was 50 mgm%, and sugar concentration was 110 mgm%; blood sugar was 130 mgm% on the same day. A brain scan showed a questionable decrease in the concentration of the isotope in the right hemisphere on the vascular sequence.



Fig. 2. Chest x-ray taken September 26, 1968.

The white blood cell count rose to 63,000 per cu. mm., and fever spiked up to 39 degree C. The right plantar response became flexor. He became somewhat more alert initially but then again became obtunded. Apnea occurred as a terminal event.

Clinical Discussion

*Dr. James Q. Miller:** The CPC today is quite interesting because it represents a very common problem in patient management.

*Associate Professor of Neurology, Assistant Dean, School of Medicine.

Basically, this is the story of an elderly man who died with evidence of lung and brain disease. It is my belief that we cannot adequately determine the exact nature of this gentleman's difficulties on the basis of information available at the time of his death, although we can learn much by a chronological reevaluation of his course. I will not go through the protocol in detail but suggest that we can identify seven different time intervals to which we should direct attention. I shall comment on some of the events that took place during each period. The first episode was a visit to the Outpatient Clinic when the patient was 63 years old. He was identified as a laborer having back pain and a chronic cough. It was decided at that time, on the basis of a flattened diaphragm and appropriate breathing studies, that he had emphysema. His history, presentation, and x-rays indicate that osteoarthritis was also present.

Shortly thereafter, however, he came back into the hospital with a much more serious occurrence, the presence of left lower lobe pneumococcal pneumonia with septicemia and possibly a myocardial infarction. The occurrence of myocardial infarction in an elderly and presumably atherosclerotic patient during periods of increased metabolic demands is well recognized, and, I think, deserves no further comment. He required a tracheotomy after becoming comatose without localizing neurologic signs.

I believe it is worth a digression here to define coma as that depressed state of consciousness in which the patient is unresponsive to any stimulus. It is related to diseases primarily involving the upper brain stem or those that involve the entirety of the cerebral hemispheres regardless of cause. It is of some interest from the historical perspective that Galen localized consciousness in the lateral ventricle, not too far off when we think of diseases that involve the entirety of the cerebral hemispheres. Descartes placed consciousness in the pineal gland (which turns out to be adjacent to the upper brain stem reticular formation), but it was left to Herbert Spencer to suggest that consciousness was dependent upon function of that part of the nervous system in which there was confluence of sensory stimuli. We now would paraphrase Herbert Spencer's perceptive comment to say that consciousness does indeed depend upon the upper brain stem reticular formation, an area receiving input from all forms of incoming sensory stimuli: tactile, painful, proprioceptive, auditory, etc. Coma in this patient who was sick, febrile, and possibly hypoxic, was probably due to the effect of those metabolic derangements affecting function of the whole brain, which we summarize as the toxicity which often accompanies severe infections, especially in the elderly.

The patient survived and his coma cleared with treatment, but he had to be bronchoscoped some three weeks after discharge because the pneumonia did not completely resolve, even with antibiotic therapy. The protocol indicates that he had a Class II-III cytology report on the bronchoscopy material. It is my understanding, having checked this with Dr. Smith, that a Class II-III "Pap" is consistent with previous infection of the respiratory system, indicating that the microscopist finds some abnormal cells but none which are definitely malignant. A repeat bronchoscopy would be in order and in fact this was done.

So much for the second event. The third period in the chronological development of this man's history occurs four years later, and it is a decided change of pace. At this time he was admitted to the hospital in a quite different status. He was cachectic, disoriented, and febrile, with cigarette stains on his clubbed fingers. Yellow stains on clubbed fingers in a smoker strongly suggests bronchogenic carcinoma and this will influence our thinking throughout the remainder of the protocol. He again had evidence of a pulmonary infection in the base of the right lung, with appropriate physical

findings, but his neurological examination at this time was normal, except for bilateral extensor plantar responses. We cannot make much out of these bilateral Babinskis except to note that they are there; normal people shouldn't have them, and something is wrong with the corticospinal tracts in this man. Whether they are related to his other diseases cannot be determined at the moment. The patient was febrile and had a very elevated white blood count.

A number of comments are appropriate at this time. The presence of clubbing in a heavy smoker, even one with a pulmonary infection and emphysema eight years previously, demands that we try to decide what significance, if any, clubbing brings to the differential diagnosis in this case. A recent publication by Cudkowicz[1] deals with the relationship between altered bronchial circulation and clubbing. In this report there is confirmation of previous statistics, suggesting that about 5% of patients with bronchogenic carcinoma will have clubbing of the fingers at the time the diagnosis is established. Clubbing is defined as distal finger enlargement with periosteal new bone formation. The incidence of clubbed fingers in chronic lung abscess is much higher and is stated to be 80%. You will recall that clubbing of the fingers is associated with a great number of extrapulmonary disease processes also. It would be of considerable help to know at what time this man developed his clubbed fingers, since we know he had chronic pulmonary disease for many years. The onset of clubbed fingers in the interval between the first and second admissions would point toward the recent development of bronchogenic carcinoma. However, the information is not available to us and, in point of fact, there are no good figures, to my best ability to ferret them out, to indicate how long clubbing is apparent to the patient or his physician before bronchogenic carcinoma is diagnosed. Be that as it may, the presence of clubbed fingers suggests that a carcinoma of the bronchus is one of the etiologic events with which we must contend.

He had a significant pneumonia with pleural effusion and a leukemoid blood picture. I gather that there is nothing in his white blood cell evaluation to suggest that he had leukemia. Presumably this was the manifestation of a chronic infection such as empyema or pulmonary abscess. I think that we may dismiss the leukemoid blood picture. His sputum grew out pneumococcus and staphylococcus, both of which are known to be frequent offenders in lung abscess, especially when related to malignancy in the lower respiratory system. They are frequently bloodborne to the brain with the occurrence of brain abscess, so they serve to alarm us in this regard. Bronchoscopy was repeated (this is four years after the first one), and the Papanicolaou smear was a bit better than the first time; we are unable to confirm the presence of pulmonary neoplasm by bronchoscopy on two occasions.

The patient now sustained a very important event from the neurologic standpoint. He was sick and so feeble as to fall in the bathroom, striking the occiput of his head. However, a neurological examination and skull x-rays were normal. He went home with the respiratory infection not completely resolved, and with the threat that he may have sustained a significant injury to the central nervous system. Subdural hematoma now joins bronchogenic carcinoma metastatic to the brain as a possible cause for his eventual demise.

Shortly after this admission, he became weaker and came back to the Emergency Room with nonspecific signs: dizziness, unsteadiness and visual difficulty. He was not found to have other physical abnormality, and all we can say is that something is now wrong for certain with this gentleman's central nervous system. There is a quotation in Merritt's textbook which I think deserves repetition: "There are no signs which will differentiate a subdural hema-

toma from an intracranial neoplasm." In this patient dizziness, unsteadiness, and difficulty in vision do not help to distinguish between intracranial tumor and subdural hematoma. I gather that the patient was hospitalized for a month and fell five days before discharge, hitting his head, but was not found to have abnormality of the neurological examination. This is a good time to look at the x-rays. I would like to indicate that to me they show evidence of a pulmonary infection which doesn't change over a long period of time and, more importantly, it is my reading of the film obtained five days before discharge that the patient had a midline pineal gland. If this is the case, we can say he had neurologic difficulty without evidence of lateral pineal displacement on the skull x-ray.

Dr. William E. Craddock: I'll start off with the chest films and then come to the skull. We don't have his original chest films that were taken in 1960 or 1964, and we start off on August 17, 1968 (Fig. 1). His left lung is somewhat radiolucent, suggesting that he probably had some emphysema present, but the striking findings is down at the right base where one can see an area of infiltration and density which blends in with the diaphragm. Whether the diaphragm is elevated or not, it is impossible to say. In addition to the general density, there is some reaction up the lateral chest wall that almost certainly indicates that there is a pleural effusion present. Now the rest of the lungs, as far as I can tell, are clear. I can see no evidence at this time of any metastases in the chest. The hilar shadows and mediastinum show no evidence of any obvious abnormality, and on the lateral film the density is present in the posterolateral portion of the right lower lobe. At this stage of the proceedings, I think one would say this is most probably an inflammatory process, pneumonia, associated with a small pleural effusion. But in any patient, and particularly in a patient of this age, the one thing one must always remember is the possibility of underlying carcinoma. This as it stands is not typical of a large solitary metastasis. The other thing to think about, purely from a radiographic appearance, is a large pulmonary infarct, but this does not fit the clinical course.

On September 8, there has been a definite change (Fig. 2). The density is somewhat more uniform and clearly defined than it was previously, and there is a suggestion of a small rounded density in the left lung; subsequent films show this density to be essentially unchanged. Going back to the first films, there is nothing to suggest that this was originally present, and this raises the possibility of a small metastasis.

He had two skull examinations which are essentially identical and show nothing remarkable for a man of this age. His sella has a good well-defined cortex lining it, making it unlikely that he has any change in his intracranial pressure. There is no shift of the pineal on either series, virtually excluding any large mass lesion, although two metastases or, even much more rarely, two abscesses that happen to balance each other will give no associated shift in the pineal.

He had a brain scan done, and this showed relative vascularity in the right hemisphere during the vascular phase. This, of course, is whilst the radioactive material is circulating through the brain; recordings are made at short periods using the gamma camera. Frankly, looking at these scans again and talking with Dr. Wetzel about them, the changes are very minor, and neither of us is convinced of their significance. There is nothing on the scans that would suggest that he had a subdural hematoma, and I mention this in view of his history of a fall. Had he a posterior fossa subdural, then we would be unlikely to see evidence on it anyway.

Dr. Miller: It is worth recapitulating that the second skull x-ray showed a midline pineal in this man after he developed left-sided weakness, and this is significant evidence against the presence of a large uni-

lateral intracranial mass. If we go on now to the next period, we come to the physical examination: he was wasted and weak, and we must try to relate these signs to his eventual demise. If he was the victim of chronic debilitating pulmonary infection in the form of tuberculosis or fungal infection, or suffering from leukemia or lymphoma with an over-riding infectious disease, it would be consistent with these observations, but the x-rays do not lend support, and his eventual central nervous system picture is not confirmatory. This man probably is dying from either the presence of a malignancy or chronic pulmonary abscess, but we have no x-ray evidence of the latter. It would be a great help to us if there was a characterization of his weakness. Neurologists are quite interested in the myasthenic syndrome which may occur in patients with a number of primary disease processes, one of which is carcinoma of the lung. Usually, in order to diagnose the myasthenic syndrome, one relies upon the typical clinical feature, fatigable weakness, or an appropriate pharmacologic response to anticholinesterase drugs. I gather these were not the case in this man, since it isn't mentioned in the protocol. Is there anything to suggest the presence of polymyositis or a myasthenic syndrome? No? All right, let's accept at face value that the patient is debilitated with a chest infection and hemiparesis.

We are now at the very last stage in his course represented in the final two paragraphs of the protocol. We find that he still has a leukemoid blood reaction, he is a bit anemic, even with dehydration, and the chest x-ray continues to show a persistent right lower infiltrate. Lumbar puncture was performed (a previous one was normal), with a very low opening pressure. This was consistent with dehydration and inconsistent with increased intracranial pressure, so we lack evidence of a large mass lesion within the cerebrum, such as a tumor or subdural hematoma. The cerebrospinal fluid was normal with regard to appearance but contained a few red cells which decreased in quantity from the first to the last tubes, suggesting that they arose from minor trauma at the time the fluid was obtained; that is, a vein was torn upon insertion of the needle. The absence of white cells in the spinal fluid militates against significant prior intracerebral bleeding or current infection of the central nervous system. If infection is present, such as a brain abscess, it has not reached the pia arachnoid in such a way as to contaminate the cerebrospinal fluid with an inflammatory response. However, we must recognize that we are here dealing with the possibility of a subdural hematoma. It is possible for a patient to die with a subdural hematoma who does not have increased intracranial pressure and who has few red cells and no white cells in the spinal fluid. This is infrequent and it makes a strong case against subdural hematoma as the cause of this man's death, but I think we must continue to consider this as one possibility. The spinal fluid sugar was relatively normal and is evidence against significant central nervous system infection, as was the normal protein. If there is a subdural hematoma, brain tumor or abscess, it has not shown up in the spinal fluid. We have already commented on the brain scan. To my eye there was no avascular area, which speaks against an acute subdural hematoma. There is, I think, some uptake in the right occiput on the scan which would be consistent with either chronic subdural hematoma, chronic infarction, or brain tumor.

As a terminal event, his white count and fever rose, he developed a minor change in his neurologic picture, and he expired with apnea. We should note that he became alert initially but then more obtunded prior to death. You are familiar with the classic statement that patients with subdural hematoma vary in their state of consciousness and may from time to time be more or less alert.

What now can we make out of this course of events, all of them relating to common disease processes and confusing in their applicability to this man? We can say that bronchogenic carcinoma metastatic to the brain becomes the primary contender as the cause of this man's neurologic disease and death. This is based upon the history of smoking, clubbed fingers, persistence of a localized infection in the lung which I would interpret to be infection behind a partial bronchial obstruction, and the occurrence of brain disease. Bronchogenic carcinoma causes 40-50% of metastatic tumors to the central nervous system. The possibility of multiple loci of infiltrate in the lung x-ray has been pointed out by Dr. Craddock, and these could be metastases. The real worry is why this man did not have a shifted pineal and increased intracranial pressure and why did he have red cells in the spinal fluid. I think he lacks lateral pineal shift and increased intracranial pressure because he represents one of those relatively unusual patients in whom metastatic tumor to the brain in effect replaces necrotic brain tissue; in other words, as the tumor metastasis expands, the brain adjacent to it rots away and the damaged brain is replaced by neoplastic tissue without significant increase in total brain volume. A much harder question to answer is why he would have red cells in the spinal fluid. It is a little bit too late to have these red cells from his fall; they may be due to a traumatic tap but we are not sure. It may be that he represents one of the exceedingly unusual events in bronchogenic carcinoma metastatic to the brain in which there is hemorrhage into the substance of the neoplasm; the cause of death might be acute hemorrhage into a metastasis. I would like to state that this is quite uncommon although it is very frequently invoked by oppressed discussants at a CPC to explain things that they otherwise don't understand. When I invoke bronchogenic carcinoma metastatic to the brain with bleeding into the metastasis as the cause of death, it gets me off the hook; however, it is a very uncommon occurrence.

What other things must we consider, perhaps more briefly? Surely a subdural hematoma is a consideration. He was elderly, he fell, he had a cerebrospinal fluid analysis which was appropriate, he had focal neurological deficit. However, there are one or two things in the physical examination against a subdural. It was mentioned that he might have a visual field defect; this is uncommon in subdural hematoma. You recall that the visual pathway is buried relatively deeply within the substance of the cerebrum, and a visual field defect, especially a homonymous hemianopia, would be more likely to occur with the lesion within the substance of the brain such as a tumor rather than one pressing on the surface. If we are to use visual fields to distinguish between metastatic tumor and subdural, the penny comes up in favor of metastatic tumor or some other disease within the substance of the brain.

Another consideration, in addition to subdural, is brain abscess, perhaps multiple abscesses. He is a good candidate by virtue of his chronic pulmonary infection which might seed the brain by hematogenous dissemination. Against brain abscess sufficient to cause death is the fact that he had neurological deficit for a considerable period with normal cerebrospinal fluid pressure, cells, and sugar, and he had no seizures. Although we might accept these findings in a patient with a small brain abscess, it is unlikely that a patient would die without manifesting them. The only problem is the notorious difficulty the clinician experiences in diagnosing a brain abscess. In fact, it is well recognized that the two things a man is most likely to stumble upon in a neurological CPC are subdural hematoma and brain abscess, so here are both of them for our consideration. I do not think this patient had a brain abscess.

We have already mentioned that tuberculosis is not confirmed either by the pul-

monary or central nervous system picture. Otherwise it would be a consideration. Lastly, it just might be that this elderly gentleman had a lung infection with or without a neoplasm, hit his head when he fell down and yet had a stroke and died with infarction of the central nervous system secondary to cerebrovascular disease; I would have to consider that an incidental event in a patient whose course clearly indicates other diseases.

In summary, I feel this patient died from carcinoma of the lung with cerebral metastasis and severe cachexia. He may have bled into a metastasis as the final event.

Dr. James Q. Miller's Diagnoses:

1. *Bronchogenic Carcinoma with Cerebral Metastases.*
2. *Hemorrhage into a Metastasis.*

Clinicopathological Conference

Dr. Smith: I gather that we really should expect the post-mortem examination to establish the nature of the process going on in the lung with a little greater certainty than we presently appreciate. We will particularly be interested to see exactly how this multiplicity of very logical possibilities that Dr. Miller has suggested might actually have existed in this man to account for the terminal deterioration of his central nervous system functions. The mass in his lung is cancer. However, Dr. Miller took a rather long chance on it, if you stop and think about it. Clubbed and tobacco-stained fingers and a history of smoking cigarettes gives you just about the same chance of dying of cancer of the lung as you have of dying in an automobile accident every time you get in an automobile. I'm very impressed that that's a chance we probably are not smart to take, but when we start talking about 40 chances out of 100,000 as diagnostic certainty on the ward, we should do so with caution, I believe. Nevertheless, in Fig. 3 one sees a large mass of granular, grey tissue occupying the lower lobe of the right lung and corresponding to the shadow that was seen in the x-ray. This is a typical bronchogenic carcinoma. There is remarkably little spread of this tumor. The bronchi are involved, but there are no metastases in peribronchial lymph nodes. Several nodules were found in the pleura and probably cor-

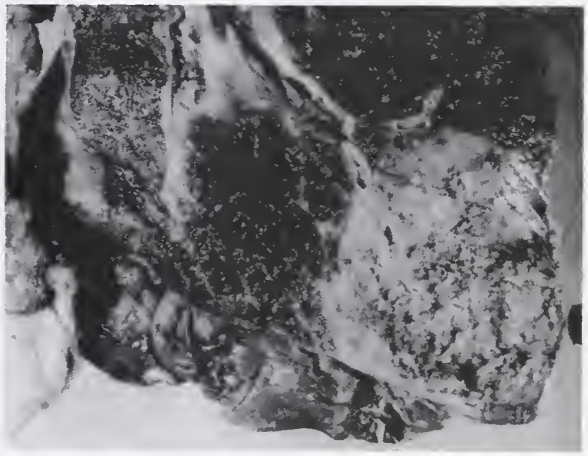


Fig. 3. Gross photograph of lung with carcinoma involving the right lower lobe.

respond to some of the increasing densities that Dr. Craddock pointed out to us. The main mass of tumor extended to the pleural surface and was accompanied by fibrinous pleurisy and pleural effusion (100 cc.).

Microscopically, the tumor was poorly differentiated and composed of large, irregular, and at times, multinucleated cells (Fig. 4). Microscopic evidence of venous invasion was seen in some areas of the tumor. That is generally recognized as a very poor prognostic sign in resected lungs and is correlated with the establishment of disseminated metastases. It is interesting that in this particular case a rather sizeable tumor, almost the size of a baseball, if you will, has shown so little metastasis, despite histologic evidence of venous invasion by the tumor at the time that the disease was arrested by this man's death. There was, however, a solitary metastasis in the left adrenal.

The lungs of this patient also contained extensive emphysema, chronic bronchitis, and pulmonary fibrosis which by itself could account for his clubbed fingers and is unquestionably tied to cigarette-stained finger-

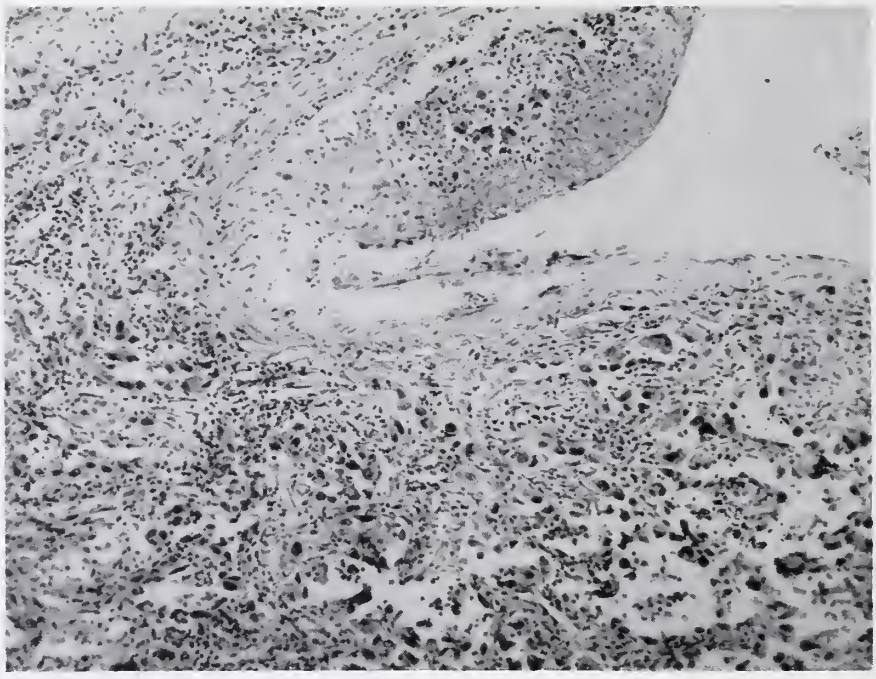


Fig. 4. Histologic section of the lung tumor in an area of venous invasion. Note the tumor-thrombus within the lumen of the vein (H&E X120).

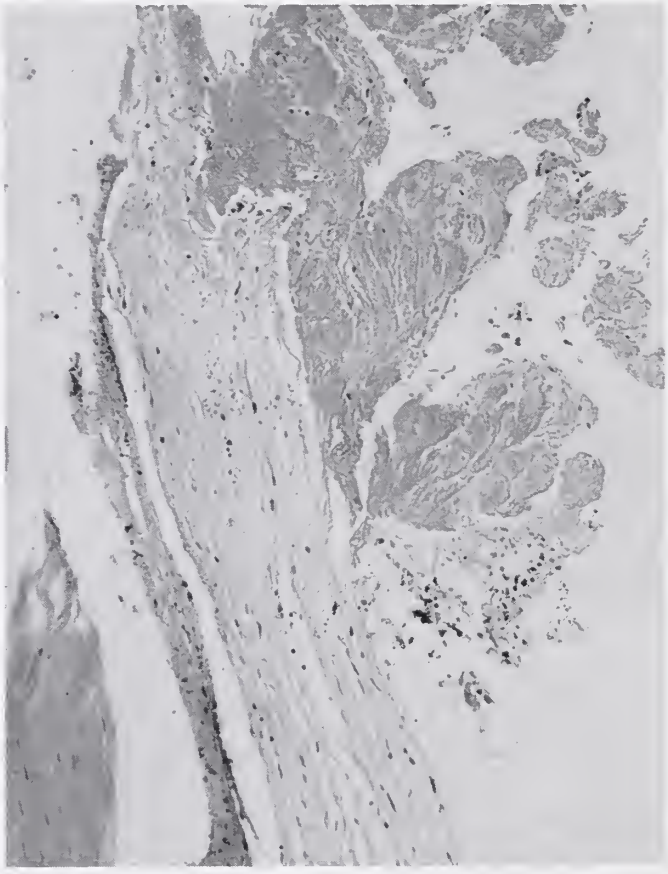


Fig. 5. Histologic section of the aortic valve cusp with thrombotic non-bacterial endocarditis (H&E X120).

tips. As you are well aware, emphysema is, by virtue of its frequency, an even more frightening pathological consequence of cigarette smoking than cancer.

The lungs were also involved by multiple small thrombotic emboli. These were seen in many sites in this lung, and I call them to your attention because I think they may be related significantly to another phenomenon that becomes more prominent in this case as we look a little bit further.

does not show any evidence of having acquired a bacterial infection, but we think that this lesion may at times serve as a focus for the establishment of bacterial growth and may be an important stage in the development of bacterial endocarditis. We do know that these non-bacterial vegetations may give rise to systemic emboli, especially to the brain. The event leading to this patient's death appear related in such a manner to this lesion on the aortic valve.

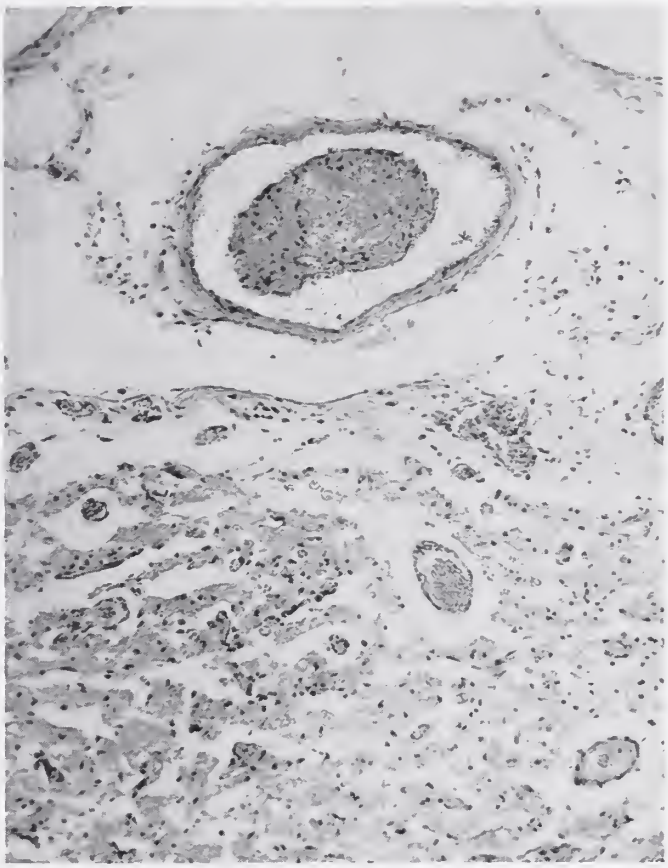


Fig. 6. Histologic section of the brain with fibrin thrombus in a meningeal artery and underlying cortical infarct (H&E X120).

The heart was normal in its gross size and general configuration, but a vegetative mass was attached to the aortic valve. Histologic sections (Fig. 5) showed that this was a bland vegetation consisting chiefly of fibrin-like material, undoubtedly a big part of it degenerative connective tissue of the valve itself. This is thrombotic nonbacterial endocarditis which one sees in a variety of wasting diseases including carcinoma. It

Gross examination of the brain disclosed an area of softening and reddening of the cortex in the right inferior parietal lobule characteristic of a recent infarct. While the infarct does not really involve the motor cortex, it is sufficiently adjacent to that area to account for weakness, I believe, and it's on the correct side to correlate with his weakness. A somewhat larger infarct was found on the medial surface of the left oc-

cipital lobe anterior to the optical cortex, but it was on the wrong side to be correlated with the suggested left visual field cut. Microscopic sections (Fig. 6) showed an acute encephalomalacia in the superficial portions of the cortex and fibrinous thrombus, which was undoubtedly derived from the vegetations on the aortic valve, in the superficial arteries. Fibrin thrombi and recent infarcts were also found in the left kidney and in the spleen, supporting the thesis of systemic embolization. There was a small amount of pneumonia in the lungs and a small amount of interstitial myocarditis in the heart. I am unable to ascribe a specific etiology to the myocarditis, but would consider it related in some way to the general debilitation of the patient.

So, this man does have a carcinoma of the lung. It is rather remarkable in that it has metastasized less dramatically than many other similar tumors. Death resulted from a complication that we trace through the development of a vegetative thrombotic nonbacterial endocarditis on his aortic valve, portions of which have embolized and produced recent infarcts in the brain, kidney, and spleen. This is a rather unusual mechanism of brain damage which we may add to those listed by Dr. Miller.

Question: How long, after development of thrombotic nonbacterial endocarditis, would you anticipate embolization, or is there any relation?

Dr. Smith: I would imagine that it would take several days for the vegetations to reach this size, but I really don't know how long a person can or does carry this lesion. I suspect that it actually exists for days in many instances, although rarely do we pick up a murmur or anything of that nature that would allow us to speculate very intelligently about this question.

Anatomical Diagnoses:

Poorly differentiated carcinoma of the lung with metastasis to the left adrenal.
Thrombotic non-bacterial endocarditis of the aortic valve.
Multiple thrombotic emboli in cerebral and renal vessels.
Recent infarcts in the brain, left kidney, and spleen.
Focal interstitial myocarditis.

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Diagnostic Laboratory Medicine....

The Changing Pattern of *Neisseria Meningitidis* 1966-1969

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H. P. DALTON, Ph.D.
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A recent study of the etiology of meningitis from the Medical College of Virginia Hospitals placed the meningococcus third in frequency. Forty cases due to this agent were reported during the years 1961-1965 with no deaths. Thirty-one additional cases were recorded from 1966 through May 1969 with six deaths occurring in 1969.

The most common early therapy in patients with meningitis from 1961 to 1965 was the triple drug regimen using penicillin, chloramphenicol, and sulfisoxazole (Gantrisin-Hoffmann-LaRoche). Reports on the emergence of sulfa resistant strains suggested the need to investigate the sensitivity to this drug of all isolates beginning in 1966.

All of the meningococci isolated from patients in this institution from 1966 to May 1968 belonged to Group B. Of sixteen strains isolated, four (25%) had a minimal inhibitory concentration (MIC) to sulfisoxazole of over 10 μgm/ml, five (35%) had a minimal bactericidal concentration (MBC) of over 10 μgm/ml. The first Group C isolate appeared in May 1968, with MIC and MBC of over 10 μgm/ml. Of the seventeen strains from Groups B and C, 29% were found to be resistant.

During the following 12-month period ending in May 1969, there were fourteen more cases of meningococcal meningitis. Eight strains belonged to Group B and six to Group C. The Group B isolates had three (38%) with a MIC and four (50%) with a MBC of over 10 μgm/ml, respectively. All six Group C strains were resistant according to the MIC and MBC. Thus, the organisms from this 12-month period had changed their serological pattern to include many more Group C strains with a corresponding rise in their resistance as well. The overall resistance in the MIC was 64% and in the MBC 71%.

An increase in meningitis due to Group C meningococci has been reported from other parts of the country, especially military installations. The California State Department of Health recently reported that laboratories in the state are isolating a predominance of Group C strains this year. The initial case due to Group C meningococcus seen in Richmond in 1968 was suspected of having been brought into this area from an army camp. Epidemiological studies also linked army camps as the possible source of the initial resistance Group B strains.

The resistance of meningococci to the sulfa drugs during the years 1966 to 1969 as reported by the National Communicable Disease Center showed an increase from 41% in 1966 to 72% in 1969. Resistance for Group B remained relatively constant over this period (about 50%); whereas, resistant strains in Group C climbed from 15% in 1966 to 93% in 1969. This dramatic rise in resistance of Group C organisms on the national level is supported by the high resistance of all isolates of the same serotype in the Richmond, Virginia, area.

It is alarming to watch the rapid change in the etiological agent of a disease such as meningococcus meningitis. After eight years of a much lower than average national mortality rate, we are suddenly faced with six deaths in the first five months of 1969. Simultaneously a sudden increase in Group C strains with a sharp rise in sulfa resistant organisms was noted. The possible relationship between these two observations is being further investigated.

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Mental Health . . . .

C. A. WHARTON, JR.

Report on Progress of Implementation of Chapter 10, Title 37.1, Code of Virginia (Community Mental Health and Mental Retardation Services)

On October 1, 1968, a revision of the Statutes of Virginia relating to mental hygiene and hospitals passed by the 1968 General Assembly became effective. This revision, encompassing Title 37.1 of the Code, made many changes in the procedures and administration of delivery of services to the mentally ill and mentally retarded. Perhaps the most innovative and potentially far reaching was the addition of an entire new Chapter authorizing the Department of Mental Hygiene and Hospitals to participate financially, within amounts appropriated, in the establishing, maintaining and promoting of community mental health and mental retardation programs.

Prior to the effective date of the revision, the Department was able to participate in local services only through the mental hygiene clinic program. This program supported by local, state and federal funds is essentially Departmentally operated, with assistance from a Local Advisory Board. It is limited to the provision of outpatient and allied services and offers few advantages to the mentally retarded. Authority to continue operation of the clinic system was retained in Title 37.1.

The new Chapter 10 provides that those jurisdictions wishing to participate may, upon becoming eligible, apply for and receive, within amounts appropriated therefor, state matching grants of fifty percent of the total local expenditures, less collected fees, for approved programs of service to the mentally ill and mentally retarded. In addition the state may grant up to fifty percent of local expenditures for construction of facilities to be used in such programs. In certain circumstances, grants may be made for up to seventy-five percent of local expenditures for staff members. Aside from the added breadth of services eligible for state assistance under Chapter 10, the major distinction between this program and the mental hygiene clinic program is that the former will be locally operated with assistance from the state whereas the latter is state operated with contributions from the locality served.

In order to be eligible to apply for state grants under Chapter 10, any city of 75,000 population or more, any county of 50,000 population or more, or any combination of jurisdictions with 50,000 or more people must first establish a Community Mental Health Services Board of not less than five nor more than fifteen members. The duties of such Boards are set forth in the Statute. They basically provide for the review and evaluation of existing programs for the mentally ill and mentally retarded, the submission to the jurisdictions of a program for provision of such services and, within amounts appropriated, the execution and maintenance of such services as may be authorized. It is emphasized that the actual applicant for grants is the jurisdiction or jurisdictions involved. Thus, for the first time, Virginia has available a method for the establishment of a local governmental agency responsible to the jurisdictions for the development and provision of community mental health and mental retardation services.

Response to the program by both citizens and local officials throughout the Common-

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Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

wealth has been most gratifying to the Department. Regulations for the administration of Chapter 10 were promulgated by the Department based upon the Statute, experience of other states and that gained from existing local programs. The program was publicized by the Department and through the efforts of the Virginia Associations for Mental Health and for Retarded Children. Consultation was made available from the Department to areas expressing immediate interest in establishing Community Mental Health Services Boards.

As of July 31, 1969, there have been seventeen Boards authorized by local jurisdictions. Fifteen of these Boards have been formed by the appointment of their members. Two are in the process of such appointments. They represent the following jurisdictions or combinations of jurisdictions:

1. Augusta-Waynesboro-Staunton
2. Alexandria
3. Arlington
4. Charlottesville-Albemarle
5. Chesapeake
6. Fredericksburg-Spotsylvania-Caroline-King George-Stafford*
7. Fairfax-Falls Church
8. Henrico
9. Loudoun
10. Lynchburg-Campbell-Appomattox-Bedford-Amherst
11. Norfolk
12. Portsmouth
13. Prince William
14. Radford-Montgomery-Giles-Floyd-Pulaski*
15. Roanoke City-Roanoke-Salem
16. Richmond
17. Virginia Beach

As with any new program, and particularly one with the potential scope of Chapter 10, there have been difficulties encountered in development. No funds were provided for this biennium to implement the program. As a consequence, administrative assistance to Boards formed has been limited to that able to be provided by the localities involved. The staff available to the Commissioner for consultation with interested communities has been limited. Additionally, because it is a governmental function, the authorization for and formation of Boards has proceeded at varying paces. This has been particularly true where more than one jurisdiction is involved. Board Members have had to become indoctrinated in their new duties.

Despite these difficulties, the Department has been impressed with the enthusiasm, zeal and ingenuity of those Boards formed. Faced with the necessity for budget preparation for the 1970-72 biennium, the Department requested Community Mental Health Services Boards to submit, insofar as was practicable, interim requests for programs and services to their localities. Without exception, all have provided preliminary information upon which a departmental request may be based. As was to be expected, the majority propose building onto and expanding existing services and coordinating those in better fashion at the local level. While serving as a basis for action, proposals must be further evaluated, clarified and refined to determine their eligibility under the Statute and administrative procedures established. It is hoped that this process may be effected prior to January 1, 1970.

That Chapter 10 has had an impact on the people of Virginia cannot be doubted in view of the Boards already formed and the number of other areas evidencing interest. Its impact on community mental health and mental retardation services will only be able to be judged on the basis of appropriations provided at state and local levels; manpower available to carry out planned programs; and the continuing interest and enthusiasm of the members of individual Community Mental Health Service Boards.

*Boards in process of formation.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Primary Amoebic Meningoencephalitis

RICHARD J. DUMA, M.D.

Primary amoebic meningoencephalitis in man due to free-living soil amoebae has been recognized only since 1965. Sporadic cases first appeared from Australia, then Florida and Texas. However, in addition to these areas, epidemics of the disease have occurred in Richmond and Czechoslovakia. At the present time at least 36 patients have been reported in the literature as having died from this disease.

The meningoencephalitis is typically purulent, occurring in healthy, young individuals who have recently been swimming or participating in water sports. Despite treatment with massive amounts of antibiotics, sulfadiazine, or anti-amoebic drugs, infected individuals have invariably succumbed, usually within 72 hours after admission to the hospital. Until recently the disease was only diagnosed retrospectively by alert pathologists; however, ante-mortem diagnosis can be easily made by microscopic examination of a wet preparation of spinal fluid.

Free-living, soil amoebae have been identified since the turn of the century, e.g., *Naegleria gruberi* (Schardinger, 1889). However, they were not found associated with disease, and investigators considered them "nonpathogenic". Occasionally they appeared as troublesome "contaminants" of yeast, bacteria, and tissue cultures. It wasn't until 1959 that Culbertson et al., of the Eli Lilly company proved that under certain conditions these amoebae could be pathogenic for animals, producing a fatal meningoencephalitis.

The first case of *primary amoebic meningoencephalitis* in Virginia was recognized at autopsy in 1966 by Dr. Joseph Callicott, a pathology resident at the Medical College of Virginia. A 14-year-old boy had died 54 hours after onset of meningitic symptoms. Dr. Callicott then decided to review autopsy material from six other individuals who had been victims of two epidemics of undiagnosed encephalitis in Richmond during the years 1951-52. It was soon learned that these individuals also had died of amoebic meningoencephalitis. These findings were published in the January, 1968 issue of the *American Journal of Clinical Pathology*. All victims had been healthy, robust people ranging in age from eight to 25 years, and all had given a history of recently swimming in one of several fresh-water swimming lakes utilized by the public.

In July, 1967, a 27-year-old naval reserve officer was admitted to the Medical College of Virginia Hospitals and diagnosed antemortem by examination of a wet preparation of spinal fluid as having amoebic meningoencephalitis. The organism was cultured and identified as a *Naegleria* species. Despite treatment with sulfadiazine and multiple antibiotics, he died 23 hours after admission.

In August, 1968, a 15-year-old girl visiting Virginia from the State of Washington went swimming in a public fresh-water lake near Richmond. Six days later she developed headache, nausea, and fever. Within three hours of having been admitted to the emergency room the diagnosis of amoebic meningoencephalitis was established. Her spinal fluid was grossly cloudy and contained many

DUMA, RICHARD J., M.D., *Assistant Professor of Medicine, Medical College of Virginia, Infectious Disease Division, Health Sciences Division of the Virginia Commonwealth University.*

motile amoebae. Despite intensive antiamoebic therapy consisting of flagyl (metronidazole), tetracyline, chloroquine, and emetine, she expired in 36 hours. Amoebae were again isolated and identified as *Naegleria*.

In 1968 Cerva and Novak reported in the journal *Science* 16 deaths due to amoebic meningoencephalitis in Czechoslovakia. All had occurred between 1962 and 1965 and were related to the same "swimming pool". Each victim was an otherwise healthy individual between the ages of eight and 25 years. Microscopically, the organism appeared to be a free-living, soil amoeba, and the clinical picture of every patient's illness was almost identical to that previously described in other parts of the world. Since then, Cerva has recognized and reported another patient who died with this same illness. From this patient a *Naegleria* species was isolated.

Recently, in May of this year a 17-year-old male was admitted to the Johnston-Willis Hospital in Richmond, Virginia, with meningitis. His illness was brief, and about three days after admission, he expired. At autopsy, amoebae were recognized in the meninges and brain. In mid-July of this year two males, age 14 and 24 were admitted to the Medical College of Virginia Hospitals and diagnosed ante-mortem as having amoebic meningoencephalitis. The incubation period was typical of cases previously described; that is five to six days after swimming they noted onset of headache, nausea, vomiting and fever. Within 48 hours both were comatose and within 72 hours both had died in the hospital despite heroic attempts at therapy. In addition to flagyl and chloroquine, amphotericin B was administered both directly into the ventricles and cisterns, as well as systemically. The use of amphotericin B was based on data from Carter in Australia and from Culbertson in Indianapolis that amphotericin B was reasonably effective against *Naegleria in vitro* and in animal experiments.

The pathology of this disease is characteristic. Usually, lesions of superficial hemorrhagic necrosis of the gray matter have been recognized, the white matter being spared. In addition, the disease appears to select certain areas of the brain for involvement, usually the olfactory bulbs and tracts, the contiguous frontal and temporal lobes, and the posterior cerebellar regions. Often large clusters of amoebae can be seen in the perivascular spaces well in advance of the hemorrhage and necrosis.

The epidemiologic factors strongly point toward swimming in fresh-water lakes as the method of contraction. Almost every victim had been previously swimming, and often a history of diving or underwater swimming was obtained. The ecology of free-living, soil amoebae is such that the organisms can be isolated easily from almost any fresh-water lake or pond. Another possibility not yet excluded is that the organism may be in the nose or throat of the victim prior to swimming. Wang and Feldman demonstrated that various *Hartmanellae* species (not *Naegleria*) could be isolated from the nasopharynx of a small percentage of "normal" individuals. Similar findings were noted by Armstrong and Pereira in England, who also isolated Hartmanellae from the sputum of "normal" individuals, as well as patient's with "chronic pulmonary disease". However, it must be emphasized that *Naegleria* has never been isolated under these conditions.

The mechanism as to how these amoebae invade and destroy tissue is unknown. Evidence exists both in animal studies and in man that invasion of the central nervous system probably occurs via the cribriform plate and olfactory system. Often severe involvement of the nasal mucosa and olfactory tracts and bulbs is found, and amoebae may be found in these areas. The possibility of inhalation and spread via the respiratory tree has not been excluded nor has invasion via the parameningeal structures.

Clinically, one should suspect this disease

when a purulent spinal fluid is obtained in a patient with meningitis who gives a history of having recently been swimming (usually within five to six days) prior to onset of symptoms. Suspicion should be increased if no bacteria can be seen on Gram's stain and of course if amoeboid forms are seen on wet preparation. Possible confusion with pseudopodial activity of white cells can occur; however amoebae have directional movement. The spinal fluid sugar is usually low but may be normal, and the protein is moderately elevated. A neutrophilic response, ranging from 300 to 2500 cells may be seen. In addition the white blood count is elevated, often to 20,000 and again with a predominance of neutrophils.

The possibility of aspectic meningitis and non-fatal cases due to free-living amoebae have not been excluded. A patient seen at the Medical College of Virginia Hospitals was recently reported in the *Journal of the American Medical Association* as perhaps having suffered aseptic meningitis due to *Acanthamoeba astronyxis*, another species of free-living amoebae. However, such an illness remains to be confirmed, but clinicians should anticipate this possibility.

Cultures of these amoebae are at times difficult to achieve but may be accomplished by experienced laboratories. Dr. Clifford Nelson of the Department of Microbiology of the Medical College is especially proficient at this task and is recognized as a leader in this field. Preservation of the organism for a considerable period of time may be accomplished by placing it in a test tube of Neff's amoebic saline or simply commercially available Hank's balanced salt solution. Room temperature or refrigeration will maintain viability but the specimen should not be frozen. One can then mail the tube to a laboratory, such as Dr. Nelson's, capable of culturing, identifying and maintaining these organisms.

In summary, *primary amoebic meningoencephalitis* due to free-living soil amoebae is a definite clinical entity and is to be distinguished from disease produced by *Entamoeba histolytica*. In all instances thus far, a species of *Naegleria*, probably *Naegleria gruberi*, has been responsible. Individuals involved are young and healthy and have previously been swimming in fresh-water lakes or ponds. The incubation period is approximately five to seven days, and the course of the illness usually lasts not more than four to five days from onset of symptoms. Typically, the outstanding symptoms have been severe frontal headaches, nausea, and vomiting associated with fever. More recently, abnormalities of taste and smell have also been identified, probably due to involvement of the olfactory tracts and bulbs. The spinal fluid is purulent with a predominance of neutrophils, the presence of red blood cells, low sugar, high protein, and motile amoebae. At present all modes of therapy appear to have been exhausted, and for the immediate future little promise of therapy exists.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	July 1969	July 1968	Jan.-July 1969	Jan.-July 1968
Brucellosis	—	7	13	30
Diphtheria	—	—	—	—
Hepatitis	30	28	242	264
Meningitis (Aseptic)	1	32	6	34
Meningococcal Infections	5	2	51	29
Poliomyelitis	—	—	—	—
Rocky Mt. Spotted Fever	19	5	43	24
Rubella	109	30	1561	548
Rubeola	28	10	664	293
Streptococcal Sore Throat and Scarlet Fever	449	467	9627	8911
Tularemia	2	—	4	1
Typhoid	—	1	—	7
Rabies in Animals	24	4	289	90
Venereal Disease:				
Syphilis	109	133	845	1000
Gonorrhea	1094	854	6792	5492
Other	4	1	26	9



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A small fraction of the hormonal agents in oral contraceptive pills has been identified in the milk of mothers receiving these drugs. The long-range effect on the nursing infant cannot be determined at this time.

Indication—Oral contraception.

Contraindications—Thrombophlebitis, thrombaembalic disarders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia, undiagnosed abnormal genital bleeding.

Warnings—Watch for the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism, retinal thrombosis); if present or suspected discontinue the drug immediately.

British studies reported in April 1968[1,2] estimate there is a seven- to tenfold increase in mortality and morbidity due to thromboembolic diseases in women taking oral contraceptives. In these controlled retrospective studies, involving 36 reported deaths and 58 hospitalizations due to "idiopathic" thromboembolism, statistical evaluation indicated that the differences observed between users and non-users were highly significant. The conclusions reached in the studies are summarized in the table below:

Comparison of Mortality and Hospitalization Rates Due to Thromboembolic Disease in Users and Non-Users of Oral Contraceptives in Britain.

Category	Mortality Rates		Hospitalization Rates (Morbidity)
	Age 20-34	Age 35-44	Age 20-44
Users of Oral Contraceptives	1.5/100,000	3.9/100,000	47/100,000
Non-Users	0.2/100,000	0.5/100,000	5/100,000

No comparable studies are yet available in the United States. The British data, especially as they indicate the magnitude of the increased risk to the individual patient, cannot be applied directly to women in other countries in which the incidences of spontaneously occurring thromboembolic disease may differ.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or sudden onset of proptosis, diplopia or migraine. Withdraw medication if papilledema or retinal vascular lesions are found.

Since the safety of Ovulen in pregnancy has not been demonstrated, it is recommended that pregnancy be ruled out for any patient who has missed two consecutive periods before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the first missed period.

A small fraction of the hormone agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect on the nursing infant cannot be determined at this time.

Precautions—Pretreatment physical examination should include special reference to the breasts and pelvic organs, and a Papanicolaou smear.

Endocrine and possibly liver function tests may be affected by Ovulen. Therefore, it is recommended that such tests if abnormal be repeated after the drug has been withdrawn for two months.

Pre-existing uterine fibromyomas may increase in size under the influence of progestogen-estrogen preparations.

Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation.

In breakthrough bleeding, and all irregular vaginal bleeding, consider nonfunctional causes. Adequate diagnostic measures are indicated in undiagnosed vaginal bleeding.

Carefully observe patients with a history of psychic depression and discontinue the drug if severe depression recurs.

Any possible influence of prolonged Ovulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study.

A decrease in glucose tolerance has occurred in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be observed carefully while receiving Ovulen.

Because of the effects of estrogens on epiphyseal closure Ovulen should be used judiciously in young patients in whom bone growth is not complete.

The age of the patient constitutes no absolute limiting factor, although Ovulen therapy may mask the onset of the climacteric.

The pathologist should be informed of Ovulen therapy when relevant specimens are submitted.

Adverse Reactions—A statistically significant association has been shown between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: cerebrovascular accidents, neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement, secretion), change in weight, changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, chalestatic jaundice, migraine, allergic rash, rise in blood pressure in susceptible individuals, mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme and nodosum, hemorrhagic eruption, itching. The following laboratory results may be altered by oral contraceptives: hepatic function: increased sulfobromophthalein and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test; pregnanediol determination.



References: 1. Inman, W. H. W., and Vessey, M. P.: Brit. Med. J. 2:193-199 (April 27) 1968. 2. Vessey, M. P., and Doll, R.: Brit. Med. J. 2:199-205 (April 27) 1968.

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Contraindications: A history of allergic reactions to penicillins or cephalosporins and infections due to penicillinase-producing organisms.

Precautions: Typical penicillin-allergic reactions may occur, especially in hypersensitive patients. Mycotic or bacterial superinfections may occur. Experience in newborn and premature infants is limited and caution should be used in treatment, with frequent organ function evaluations. Safety for use in pregnancy is not established. In gonorrheal therapy, serologic tests for syphilis should be performed initially and monthly for 4 months. Assess renal, hepatic and hematopoietic function intermittently during long-term therapy.

Adverse Reactions: Skin rash, pruritus, urticaria, nausea, vomiting, diarrhea and anaphylactic reactions. Mild transient elevations of SGOT or SGPT have been noted. Black tongue has been noted in some patients receiving the Chewable Tablets.

Usual Dosage: Adults—250 or 500 mg. q. 6 h. (according to infection site and offending organisms). Children—50-100 mg./Kg./day in 3 to 4 divided doses (depending on infection site and offending organisms). Bacterial meningitis—150-200 mg./Kg./day in 6 to 8 divided doses. Children weighing more than 20 Kg. should be given an adult dose when prescribing orally. In parenteral administration, children weighing more than 40 Kg. should be given an adult dose. Beta-hemolytic streptococcal infections should be treated for at least 10 days.

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PRELIMINARY PROGRAM

122nd Meeting

The Medical Society of Virginia

The Cavalier and Civic Center
Virginia Beach, Virginia
October 16-19, 1969

Preliminary Program

122ND MEETING

The Medical Society of Virginia

THE CAVALIER
AND
CIVIC CENTER
VIRGINIA BEACH, VIRGINIA
OCTOBER 16-19, 1969

THURSDAY, OCTOBER 16
10:00 A.M.

COUNCIL
South Porch

2:00 P.M.
HOUSE OF DELEGATES
Cavalier Room

SPECIAL EVENTS

THURSDAY, OCTOBER 16

Virginia Academy of General Practice
7:30 A.M.—Breakfast—Board Meeting (Williamsburg Room)
Virginia Physicians Association
7:30 A.M.—Breakfast Meeting (Colonial Room)
Council, The Medical Society of Virginia
10:00 A.M.—Business Session (South Porch)
12:30 P.M.—Luncheon (Colonial Room)
House of Delegates, The Medical Society of Virginia
2:00 P.M.—Cavalier Room
International College of Surgeons, Virginia State Surgical Division
3:30 P.M.—Scientific and Business Session—Social Hour following (Colonial Room)
VaMPAC
5:00 P.M.—Social Hour (Pool Loggia)
7:30 P.M. Banquet (Cavalier Room)

FRIDAY MORNING, OCTOBER 17

9:00 A.M.

Civic Center

Welcome and Preliminary Announcements—J. A. White, M.D., Chairman, Local Committee on Arrangements

Memorial Service

SCIENTIFIC PROGRAM

The Medical Society of Virginia has received the cooperation of the Virginia Academy of General Practice in arranging the overall scientific program.

Michael A. Puzak, M.D., Arlington, Presiding.

9:05 A.M.—Panel—EMERGENCY CARE OF THE PATIENT—Curtis P. Artz, M.D., Chairman, Department of Surgery, Medical College of South Carolina, Charleston, S. C., Moderator.

1. PSYCHIATRIC EMERGENCIES—*Guest Speaker*—Thomas P. Detre, M.D., Assistant Professor of Psychiatry, Yale University School of Medicine, New Haven, Conn.
2. THE UNCONSCIOUS PATIENT—H. St. George Tucker, M.D., and Cary G. Suter, M.D., Richmond.
3. CARDIAC RESUSCITATION—J. H. Hollingsworth M.D., Roanoke.

10:20 A.M.—INTERMISSION TO VISIT EXHIBITS

10:45 A.M.—Continuation of Panel—

4. THE ROLE OF THE EMERGENCY ROOM—James D. Mills, Jr., M.D., Alexandria.
5. TRAUMA AND SHOCK—*Guest Speaker*—Curtis P. Artz, M.D., Charleston, S. C.

11:45 A.M.—The audience will direct questions to Panel members.

FRIDAY AFTERNOON, OCTOBER 17

SCIENTIFIC PROGRAM

Civic Center

Robert L. A. Keeley, M.D., Roanoke, Presiding.
2:15 P.M.—EVALUATION OF THE DIZZY PA-

TIENT—Cary N. Moon, Jr., M.D., Charlottesville.

This paper will include the following steps in evaluating the condition of the dizzy patient: a discussion of the important features of the patient's history, with specific questions that should be asked; a description of the ear examination, and possibly related neurological observations; the audiological evaluation and how this may aid in the diagnosis; the significance of an evaluation of the vestibular apparatus with emphasis on equilibrium testing and, in particular, caloric testing with electronystagmography.

2:30 P.M.—WHEN TO DISCONTINUE ORAL CONTRACEPTIVES—John A. Board, M.D., Richmond.

Blood clotting factors are altered by oral contraceptive agents. Related disorders, including superficial thrombophlebitis, deep vein thrombosis, pulmonary embolism, cerebral thrombosis, and abdominal pain due to mesenteric artery thrombosis, are indications to discontinue such therapy. Migraine headaches, melasma similar to chloasma of pregnancy, hypertension, and jaundice or liver disease are additional indications. If malignancy of breast or uterus is found, the oral contraceptives should be discontinued.

2:45 P.M.—CARCINOMA OF THE THYROID—James H. Carraway, M.D., and Claiborne W. Fitchett, M.D., Norfolk.

The problem of carcinoma of the thyroid gland has been reviewed in the records and the tumor clinic of the Norfolk General Hospital. An analysis of the types of tumor, the age of the patient, the varieties of treatment, and the length of survival has been made and some conclusions drawn from these statistics. The unusual behavior of this tumor is commented upon. Suggestions are made as to possible changes in the therapeutic programs for these patients.

3:00 P.M.

Cavalier Hotel

Reference Committee #1—Colonial Room
Reference Committee #2—Virginia Room
Reference Committee #3—Williamsburg Room

SPECIAL EVENTS

FRIDAY, OCTOBER 17

American College of Surgeons, Virginia Chapter
7:30 A.M.—Breakfast Meeting (Virginia Room)

American Association of Public Health Physicians, Virginia Chapter
7:30 A.M.—Breakfast Meeting (Colonial Room)

VaMPAC
7:30 A.M.—Breakfast Meeting (South Porch, Sec. B)

Virginia Diabetes Association
7:30 A.M.—Breakfast Meeting (Williamsburg Room)

Virginia Society for the Prevention of Blindness, Inc.
7:30 A.M.—Breakfast Meeting (South Porch, Sec. C)

Virginia Orthopaedic Society
12:30 P.M.—Cocktails followed by Luncheon and Business Session (South Porch, Sec. A, B, C)

American College of Physicians, Virginia Section
1:00 P.M.—Luncheon Meeting (Colonial Room)

Virginia Urological Society
1:00 P.M.—Luncheon Meeting (Williamsburg Room)

Medical College of Virginia Alumni Association
6:30 P.M.—Cocktails (Pool Loggia)
7:30 P.M.—Banquet (Dining Room)

University of Virginia Medical Alumni Association
6:30 P.M.—Cocktails (Colonial Room)
7:30 P. M.—Banquet (Cavalier Room)

SATURDAY MORNING, OCTOBER 18

9:00 A.M.
Civic Center

James M. Perry, M.D., Cedar Bluff, Presiding.

SCIENTIFIC PROGRAM

9:05 A.M. — Panel COMPREHENSIVE HEALTH CARE—William Grossmann, M.D., Petersburg, Moderator.

1. ROLE OF THE STATE DEPARTMENT OF HEALTH—Mack I. Shanholtz, M.D., Richmond.
2. ROLE OF THE FEDERAL GOVERNMENT—*Guest Speaker*—Paul Sanazard, M.D., Director, National Center for Health Services, Bethesda, Md.
3. THE ROLE OF THIRD PARTIES—*Guest Speaker*—Robert C. Denzler, Vice-President and General Manager, Blue Cross of Virginia and Blue Shield of Virginia, Richmond.
4. COMPUTERIZATION IN MEDICINE—S. James Kilpatrick, Jr., M.D., Richmond.

10:20 A.M.—INTERMISSION TO VISIT EXHIBITS

10:50 A.M.—Continuation of Panel

5. Physician Shortage — Kinloch Nelson, M.D., Richmond.
6. The Physician Assistant—*Guest Speaker*—E. Harvey Estes, Jr., M.D., Chairman, Department of Community Health Sciences, Duke University School of Medicine, Durham, N. C.
7. Visitation of Physicians to Overseas Areas—*Guest Speaker*—Franklin T. Fowler, M.D., Medical Consultant to the Foreign Mission Board of the Southern Baptist Convention, Richmond.

The Role of Medicine in Alliance for Progress in South America—Frederick J. Spencer, M.D., Richmond.

11:40 A.M.—The audience will direct questions to Panel members.

SATURDAY AFTERNOON, OCTOBER 18

SCIENTIFIC PROGRAM

Civic Center

Michael A. Puzak, M.D., Arlington, Presiding.

2:15 P.M.—The Treatment of Chronic Obstructive Lung Disease in a Community Hospital—Charles F. Ballou, III, M.D., Clifton Forge.

Appropriate slides dealing with the basic pulmonary physiology from the standpoint of lung volumes and blood gases are presented as a review along with our method of attack of the chronic and acute respiratory program sometimes involving tracheostomy and/or endotracheal intubation and respiration of the patient with machine cycled intermittent positive pressure breathing. Methods of the above are discussed and future plans for the use of Volume Controlled Respirators, etc., are discussed along with our overall plans for an extensive out-patient program. It is pointed out that with interested parties and well trained personnel the respiratory oriented physician may accomplish a great deal in bringing this type of therapy to a hospital in a rural area.

2:30 P.M.—Ambulatory Pediatrics—A Community Effort—William I. Neikirk, M.D., Charlottesville.

The pediatrician has noted the change from hospital care to office and out-patient clinic management since the end of World War II. He is in a position to see the present needs and feel the trends for future needs for health care and planning. The child offers him a unique opportunity to investigate the results of various health programs. By child education and instruction, many family programs may be started and the needs for these may be brought to light.

Various illustrations of approaches to provide medical care such as group practice, Kailer Permenente Group Plan, Community Hospital Clinics, etc., will be presented for discussion. This is not a discussion of various government health plans or programs and their approach, but rather an opportunity for the physicians to aid in providing for the health care needs of their communities.

2:45 P.M.—Epiphyseal Injuries, Their Recognition and Treatment—Robert W. Waddell, M.D., James L. Gardner, M.D., and Frank G. Burns, Jr., M.D., Virginia Beach.

Common epiphyseal injuries of the upper and lower extremities are discussed with particular reference being made to the early recognition of such injuries and pitfalls involved in making the diagnosis. A brief discussion also centers around the treatment of these injuries as well as ultimate prognosis. A new proposed classification of epiphyseal injuries is discussed.

3:00 P.M.—Severe School Phobia—Douglas F. Powers, M.D., Richmond.

The subject will be introduced by a brief discussion of the dynamics of school phobia in general and detail various approaches to management. However, the main focus of the paper will be on the dynamics and treatment of the severe school phobias among the different age groups of school children. The admissions of severe school phobias to the Virginia Treatment Center for Children over a period of seven years will be reviewed, emphasizing the common underlying theme of fear of separation from mother. The mother's part in the separation difficulty will be emphasized. Treatment methods of the severe school phobic child will be discussed at length. The goals of the paper will be: (1) clarify causes; (2) discuss methods of treatment; and (3) point out errors in management that are likely to occur.

3:30 P.M.

HOUSE OF DELEGATES

Cavalier Room

SPECIAL EVENTS

SATURDAY, OCTOBER 18

Virginia Academy of General Practice

7:30 A.M.—Breakfast Meeting—Membership and Credentials Committee (South Porch, Sec. A)

1:00 P.M.—Annual Luncheon (Virginia and Colonial Rooms)

Virginia Industrial Medical Association
7:30 A.M.—Breakfast Meeting (Virginia Room)

Virginia Society of Internal Medicine
7:30 A.M.—Breakfast Meeting (South Porch, Sec. B)

American College of Radiology, Virginia Chapter
1:00 P.M.—Luncheon Meeting (Williamsburg Room)

Virginia Obstetrical & Gynecological Society
1:00 P.M.—Luncheon Meeting (Hunt Room)

Virginia Society for Pathology
1:00 P.M.—Luncheon Meeting (South Porch, Sec. C)

Virginia Society of Plastic & Reconstructive Surgery
1:00 P.M.—Luncheon Meeting (Directors Room)

Virginia Surgical Society
1:00 P.M.—Luncheon Meeting (South Porch, Sec. A, B)

House of Delegates, The Medical Society of Virginia
3:30 P.M.—Cavalier Room

The Medical Society of Virginia
6:30 P.M.—Cocktails (Pool Loggia and East Porch)
7:30 P.M.—Banquet (Cavalier and Virginia Rooms)

SCIENTIFIC EXHIBITS

Civic Center

PROSTHETIC TRAINING AND PROSTHETIC DEVICES—Nila Kirkpatrick Covalt, M.D., Tidewater Rehabilitation Institute, Norfolk.

STATUS OF MATERNAL HEALTH IN VIRGINIA—James J. Dunne, M.D., Bureau of Maternal Health, Virginia State Department of Health, Richmond.

DIAGNOSE GOUT AND TREAT IT—Irvin F. Hermann, M.D., Benjamin Franklin Clinic, Philadelphia, Pennsylvania.

REDUCTION OF CSF PRESSURE BY CHEMOTHERAPY. A COMPARATIVE STUDY—H. Hooshmand, M.D., Cary G. Suter, M.D., and J. Dover, M.S., Medical College of Virginia, Richmond.

GLAUCOMA SCREENING DEMONSTRATION—Marion K. Humphries, Jr., M.D., Fred M. Williams, M.D., and Margaret B. Gill, M.Ed., Virginia Society for the Prevention of Blindness, Incorporated, Richmond.

DIAGNOSIS AND CURRENT TREATMENT OF EPILEPSY—Samuel Livingston, M.D., Lydia L. Pauli, M.D., Somchart Chaiyavet, M.D., and Irving Pruce, B.S., The Johns Hopkins Hospital, Baltimore, Maryland.

SELECTIVE NEEDLE-CATHETER ANGIOGRAPHY—Joseph T. McFadden, M.D., Norfolk.

SUICIDE IN CHILDREN AND ADOLESCENTS—Douglas F. Powers, M.D., Virginia Treatment Centers for Children, Medical College of Virginia, Richmond.

RESULTS OF A COMPUTERIZED STUDY OF CYCLIC HORMONAL TREATMENT—F. P. Rhoades, M.D., Grace Hospital, Detroit, Michigan.

DEVELOPMENT OF A SELF TEACHING PROGRAM. Self-Instructional Materials in a Coordinated Neurological Sciences Curriculum—Cary Suter, M.D., Margaret Jones, M.D., and Melvin Shaffer, Medical College of Virginia, Richmond.

VIRGINIA REGIONAL MEDICAL PROGRAM—PROGRESS REPORT — Communications Officers, Richmond.

TECHNICAL EXHIBITS

Civic Center

ABBOTT LABORATORIES, North Chicago, Illinois

APACHE CORPORATION—Minneapolis, Minnesota

ARNAR-STONE LABORATORIES, Mt. Prospect, Ill.

AYERST LABORATORIES, AMERICAN HOME PRODUCTS CORPORATION, New York, N. Y.

BLUE SHIELD OF VIRGINIA, Richmond

BRISTOL LABORATORIES, Syracuse, New York

BURROUGHS WELLCOME & COMPANY, Tuckahoe, New York

CIBA PHARMACEUTICAL PRODUCTS, Summit, New Jersey

COCA-COLA, USA, Atlanta, Georgia

DAVID A. DYER INSURANCE AGENCY, Roanoke

THE EMKO COMPANY, St. Louis, Missouri

ENCYCLOPAEDIA BRITANNICA, Chicago, Illinois

G. C. FRENCH AGENCY, Richmond

GEBAUER CHEMICAL COMPANY, Cleveland, Ohio

GEIGY PHARMACEUTICALS, Ardsley, New York

IMPERIAL FASHIONS, Los Angeles, California

HERALD PHARMACAL, INCORPORATED, Bedford

LAKESIDE LABORATORIES, Milwaukee, Wisconsin

ELI LILLY AND COMPANY, Indianapolis, Indiana

MEAD JOHNSON & COMPANY, Evansville, Indiana

NATIONAL CLINICAL SERVICES LABORATORIES, INCORPORATED, Fairfax

MERCK SHARP & DOHME, West Point, Pennsylvania

ORTHO PHARMACEUTICAL CORPORATION, Raritan, New Jersey

PEOPLES DRUG STORES, Washington, D. C.

PFIZER LABORATORIES, New York, New York

WM. P. POYTHRESS & COMPANY, Richmond

R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, North Carolina

RETIREMENT INCORPORATED, Washington, D. C.

A. H. ROBINS COMPANY, Richmond

J. B. ROERIG AND COMPANY, New York, New York

SANDOZ PHARMACEUTICALS, Hanover, New Jersey

W. B. SAUNDERS COMPANY, Philadelphia, Pa.

SEABOARD SURGICAL SUPPLY, DIVISION OF GENERAL MEDICAL CORPORATION, Newport News

G. D. SEARLE & COMPANY, Chicago, Illinois

SMITH, KLINE & FRENCH LABORATORIES, Philadelphia, Pennsylvania

SMITH, MILLER & PATCH, New York, New York

SOUTHERN MEDICAL SUPPLY COMPANY, Richmond

E. R. SQUIBB & SONS, New York, New York

THE STUART COMPANY, Pasadena, California

SYNTEX LABORATORIES, Palo Alto, California

UNITED MEDICAL LABORATORIES, Portland, Oregon

THE UPJOHN COMPANY, Kalamazoo, Michigan

WARNER-CHILCOTT LABORATORIES, Morris Plains, New Jersey

JOHN E. WOODWARD ASSOCIATES, Richmond

DELEGATES TO THE 1969 MEETING THE MEDICAL SOCIETY OF VIRGINIA

Where no name is listed it is indicative that no delegate or alternate was reported in time for publication.

Delegates	*Alternates*
Accomack	
Dr. Walter A. Eskridge	Dr. Donald F. Fletcher
Albemarle	
Dr. John L. Guerrant	Dr. W. McK. Wallenborn
Dr. W. Copley McLean	Dr. J. Shelton Horsley III
Dr. George R. Minor	Dr. Morton C. Wilhelm
Dr. A. Page Booker	Dr. Guy M. Harbert, Jr.
Dr. Wm. B. Pollard	Dr. Frank E. Taylor
Alexandria	
Dr. F. Preston Titus	Dr. M. Hayne Kendrick
Dr. Wallace E. Baker	Dr. Robert H. Anderson
Dr. James M. Moss	Dr. James B. Gilbert
Dr. Thomas L. Lucas	Dr. H. H. Ferrell, Jr.

Delegates	*Alternates*
Alleghany-Bath	
Dr. Donald S. Myers	Dr. Larry R. Denius
Dr. Wm. W. Harris, Jr.	Dr. Walter W. Johnson, Jr.
Dr. Wallace C. Nunley	Dr. William P. Fletcher
Dr. William J. Ellis	Dr. Edward W. Scherer, Jr.
Dr. Charles F. Ballou III	
Amherst-Nelson	
Arlington	
Dr. William D. Dolan	Dr. Gerald J. Fisher
Dr. Michael A. Puzak	Dr. Robert E. Byrne
Dr. J. O. Romness	Dr. Robert H. Gruver
Dr. W. Leonard Weyl	Dr. Henry L. Bastien
Augusta	
Bedford	
Botetourt	
Buchanan-Dickenson	
Dr. Bradley D. Berry	Dr. Ralph W. Hess
Dr. J. P. Sutherland	Dr. J. C. Moore
Charlotte	
Culpeper	
Dr. Robert L. Cassidy	
Dr. George E. Broman, Jr.	
Danville-Pittsylvania	
Dr. G. V. Thompson, Sr.	Dr. G. B. Updike, Jr.
Dr. Baxter H. Byerly	
Fairfax	
Dr. C. Barrie Cook	Dr. William L. Bekenstein
Dr. Alan Mackintosh	Dr. Carl E. Crimm
Dr. William J. Reardon	Dr. Edward J. Gallagher
Dr. Nelson M. Tart	Dr. Rolf A. Koehler
Dr. Donald S. Thorn	Dr. Thomas M. Wright
Fauquier	
Dr. James B. Hutt, Jr.	Dr. John F. Denton
Floyd	
Fourth District	
Dr. James L. Hamner	Dr. James T. O'Neal
Dr. John A. Mathews	Dr. A. A. Fratrick
Dr. William B. Bishop	Dr. Earle M. Bane
Dr. Charles C. Ashby	Dr. Robert S. Smith
Dr. Peter W. Squire	Dr. James A. Kirkland

Delegates	*Alternates*
Dr. L. W. Bridgforth	Dr. E. D. Baugh, Jr.
Dr. Robert D. Keeling	Dr. William A. Shelton
Dr. James S. Harris	Dr. Charles W. Scott
Dr. Anthony J. Munoz	Dr. William P. Terry
Dr. Robert W. Bradley	Dr. Wayne M. Phipps
Dr. M. S. Rosenberg	Dr. Kasper Kaufman
Dr. Louis E. Richard	Dr. Nelson M. Smith
Dr. Stanley C. Boyce	
Fredericksburg	
Halifax	
Dr. W. J. Hagood, Jr.	Dr. Denys F. Sheriff
Hampton	
Dr. Richard F. Clark	
Dr. Peter E. Downs	
Hanover	
Dr. Wayne S. Hume	Dr. Mann T. Lowry
James River	
Dr. Russell N. Snead	Dr. A. C. Whitley
Dr. W. A. Pennington	Dr. Garland Dyches
Dr. J. H. Yeatman	
Lee	
Dr. G. B. Setzler	Dr. Beryl H. Owens
Loudoun	
Dr. Keith M. Oliver	Dr. William P. Frazer
Louisa	
Lynchburg	
Dr. William H. Barney	
Dr. Robert L. Morrison	
Dr. G. E. Calvert	
Mid-Tidewater	
Dr. A. L. Van Name, Jr.	Dr. Paul L. Fisher
Dr. Sterling N. Ransone	Dr. Harold W. Felton
Dr. Thomas E. Smith	Dr. H. L. Shinn
Dr. William H. Hosfield	Dr. William B. Brown
Dr. M. H. Harris	Dr. Shirley C. Olsson
	Dr. Douglas E. Andrews
Newport News	

Delegates	*Alternates*
Norfolk	
Dr. Fred T. Given, Jr.	Dr. David B. Young
Dr. C. N. Van Horn, Jr.	Dr. Harold M. Horden
Dr. T. Winston Gouldin	Dr. Harry B. Taylor, Jr.
Dr. R. B. Gahagan	Dr. Willcox Ruffin, Jr.
Dr. Vernon L. Cofer, Jr.	Dr. George H. M. Rector
Dr. James W. Creef	Dr. Frank N. Bilisoly III
Dr. Bernard I. Lidman	Dr. Robert K. Maddock
Northampton	
Dr. John R. Mapp	
Northern Neck	
Dr. Paul C. Pearson	Dr. Harold E. Sisson
Dr. J. K. Cunningham	Dr. A. B. Gravatt, Jr.
Dr. H. W. Goode, Jr.	Dr. J. Motley Booker
Dr. Horace E. Kerr	
Northern Virginia	
Dr. Wm. B. Crawford, Jr.	
Dr. James R. Holsinger	
Dr. D. H. McNeill, Jr.	
Dr. George H. Smith	
Dr. John P. Snead, Jr.	
Dr. James R. York	
Orange	
Dr. J. Garnett Bruce, Jr.	Dr. David H. Miller
Patrick-Henry	
Dr. William D. Lewis	Dr. D. R. Holsinger
Dr. Samuel P. Massie	Dr. R. E. Herring
Dr. Bate C. Toms, Jr.	Dr. Fred T. Renick
Portsmouth	
Dr. Neil Callahan	Dr. A. A. Kirk
Dr. Robert M. Campbell	Dr. John W. Hollowell
Prince William	
Dr. Alvin E. Conner	
Richmond	
Dr. Richard A. Michaux	Dr. Arthur D. Bragg
Dr. Earnest B. Carpenter	Dr. H. H. Ware III
Dr. William T. Tucker	Dr. Russell V. Bowers
Dr. W. Robert Irby	Dr. David L. Litchfield
Dr. H. Fairfax Conquest	Dr. Custis L. Coleman
Dr. John P. Eastham	Dr. John P. Lynch
Dr. Fleming W. Gill	Dr. James B. Black, Jr..
Dr. Wm. H. Harris, Jr.	Dr. Joseph C. Parker
Dr. Darrell K. Gilliam	Dr. William S. Dingledine
Dr. Kinloch Nelson	Dr. Wyndham B. Blanton, Jr.
Dr. John S. Ashworth	Dr. Percy Wootton
Dr. R. Campbell Manson	Dr. Carrington Williams, Jr.
Dr. Harold I. Nemuth	Dr. Owen Gwathmey
Dr. Robt. E. Mitchell, Jr.	Dr. Walton M. Belle

Delegates	*Alternates*
Roanoke	
Dr. Richard H. Fisher	Dr. L. G. Richards, Jr.
Dr. George S. Hurt	Dr. W. Conrad Stone
Dr. Frederick M. Jacobs	Dr. Philip C. Trout
Dr. Charles A. Young, Jr.	Dr. G. G. Gooch III
Dr. Michael J. Moore	Dr. Earl R. Johnson, Jr.
Dr. P. A. Wallenborn, Jr.	Dr. A. L. Wolfe
Rockbridge	
Dr. O. H. McClung, Jr.	Dr. E. V. Brush, Jr.
Dr. Lewis A. Micou	
Rockingham	
Dr. John T. Glick, Jr.	Dr. J. T. Hearn
Dr. George M. Nipe	Dr. Joseph E. Gardner
Scott	
Dr. William P. Grigsby	Dr. Hobert M. Hampton
Southwestern	
Dr. Blake Fawcett	Dr. Garrett Dalton
Dr. William W. Walton	Dr. William F. McGuire
Dr. Maury C. Newton, Jr.	Dr. Lester E. Dunman
Dr. George B. Kegley	Dr. Walter Barton
Dr. C. D. Moore, Jr.	Dr. Paul C. Hendrix
Dr. C. C. Hatfield	Dr. J. J. Eller
Dr. Joseph H. Early, Jr.	Dr. Moir G. Martin
Dr. Julian L. Givens	Dr. William B. Waddell
Dr. W. J. Stanford	Dr. J. Scott Shaffer
Dr. C. F. Johnston, Jr.	Dr. George W. McCall
Dr. William M. Gammon	Dr. W. C. Elliott
Dr. Giles Q. Gilmer	Dr. G. R. Smith, Jr.
Dr. James H. Smith	
Tazewell	
Dr. Robert A. Abernathy	Dr. Mary E. Johnston
Tri-County	
Virginia Beach	
Dr. F. G. Burns, Jr.	
Dr. C. W. Dewalt, Jr.	
Dr. B. H. Stillman	
Williamsburg-James City	
Dr. William J. Massey III	
Dr. George J. Oliver, Jr.	
Wise	
Dr. Joseph M. Straughan	
Dr. L. C. Strong, Jr.	

The Medical Society of Virginia . . . .

REPORTS FOR 1969 ANNUAL MEETING

Executive Secretary-Treasurer

It seems trite somehow to say that we are living in days of rapid change. Such a statement is true, of course, but words simply cannot portray the magnitude of that change. So many things are going on, and so many new programs and plans are taking their place in the ever lengthening parade of Governmental health projects that today's typical physician can hardly be blamed for asking "What next?"

What next, indeed! Medicare is scarcely three years old and already we have Medicaid, Regional Medical Programs and Comprehensive Health Planning. Add these to the already existing CHAMPUS and VA Home Town Programs—and there are undoubtedly many others—and it is easy to understand and excuse our look of bewilderment. It should be clear, however, why our Presidents of the past two years have urged physicians to become knowledgeable and involved. It could well be the key to survival.

All this adds up to one very important fact—your Medical Society must, more than ever, serve as the rallying point for all physicians. It is here that the decisions which will determine the future of medicine in our State must be made. It is here that the many faces of medicine must be blended into one impressive image.

This is why your President and Council have taken what might well be one of the most important and far-reaching steps in the Society's long history. They have determined to review current activities, objectives, etc. and seek to establish the future mission of The Medical Society of Virginia. A special top-echelon committee is this very moment hard at work in the early stages of developing a blueprint for action—designed to make the Society a highly effective force in these strange and difficult times. The coming year should be an interesting and exciting one for Virginia physicians.

Even though the road ahead may appear filled with obstacles, we are convinced that this is no time to throw in the towel. The true test of a great people, a great team, a great profession, is how well they shrug off temporary setbacks and keep coming back. We have no doubt whatever that American medicine will answer the challenge in a manner which will convince even the most skeptical.

As we do each year, we would like briefly to review and comment on Society activities from an administrative point of view.

Finances: It is good to report that the financial affairs of the Society remain in good order—even in these days of inflation. Expenses, of course, continue to increase and the Finance Committee is keeping a close watch on the overall situation. There is, however, no immediate cause for alarm and we are confident that the annual Auditor's report will show that we have operated generally within our budget.

Personnel: There have been no changes in staff personnel during the year—the total number remaining at six. This figure has remained fairly constant over the past nineteen years and is, we believe, a good indication of the willingness of all staff members to go "that extra mile".

Membership: We are very pleased with the overall membership picture—even though we realize that there is always room for improvement. The Society welcomed 180 new members during the year and our net gain was a respectable and encouraging 90. Secretaries of component societies have been most cooperative in reporting their new members and your staff responds by sending personal letters of invitation within twenty-four hours after the names are received.

A continuing effort is being made to bring into the Society those physicians who for years have been considered "non joiners". While we can report some success, we must confess that progress is disappointingly slow. Membership facts and figures follow in detail:

July 31, 1968			3,519
New	180		
Reinstated	8		
Increase		188	
Deaths	39		
Resigned	27		
Dropped	32		
Decrease		98	
Net Increase			90
July 31, 1969			3,609

AMA Membership: Although AMA membership is not mandatory as far as The Medical Society of Virginia is concerned, we are, nevertheless, quite disappointed in the rather poor record the Society has made in this respect. As of July 31, only 2,200 members of the Society belong to AMA. This low figure is to be deplored for a number of reasons. First, AMA still represents medicine's first and strongest line of defense. It isn't perfect—but then what is? For years, AMA was the only deterrant to those who advocated the complete socialization of medicine. Admittedly, its strategy was not always the best, but it is easy to look back and second-guess the policy-makers. There is good reason to believe that Medicare and Medicaid would be a great deal more objectionable than they are if AMA and its constituent societies had not battled right down to the wire.

This is no time to give up. Now, more than ever, physicians should become involved. If they do not, the entire profession will be overrun and overwhelmed by new and massive Federal programs of one kind or another.

Then, of course, AMA is an organization of many activities. It offers so much in the areas of research, disaster and emergency care, continuing medical education, medico-legal problems, medicine and religion, health care financing, foods and nutrition, insurance, public affairs, radio and television, drugs, editorial services, environmental health, legislation, community health, investigation—and many, many more. Today's AMA dues represent one of the best bargains available anywhere.

Virginia Medical Monthly: You can hardly blame the Editors of the Virginia Medical Monthly for feeling that "If it isn't one thing it's another". For several years now, the Monthly has had its advertising problems—brought on largely by the uncertainty within the pharmaceutical industry as a result of Congressional investigations. Now, it finds itself confronted with IRS Regulations bearing on income from advertising—referred to as "unrelated income". It is to the everlasting credit of Miss Watkins, our Managing Editor, that the Monthly seems to get a little better each year—in spite of these annoying problems.

The Monthly continues to be a tangible benefit of Society membership—one we point to with great pride. We take this opportunity to express special appreciation to Dr. Warthen and members of his Editorial Board for their contributions. It is not without good reason that many consider the Monthly's editorials to be tops in the Nation.

Council: Three meetings of Council have been held during the year and a fourth is scheduled for October 16—the first day of the Annual Meeting. Detailed minutes of the February and May meetings have already been published in the Virginia Medical Monthly.

Meetings: The Medical Society of Virginia was represented at many local, state, and national meetings during the year. Meetings attended included: Both sessions of the AMA House of Delegates, AMA Institute, Conference of State Mental Health Committee Chairmen, National AMPAC Workshop, 4-H Club Awards ceremony, annual meeting of Virginia State Dental Association, annual meeting of Virginia Association of Medical Assistants, annual meeting of Professional Convention Management Association, Conference of Presidents and other officers of State Medical Associations, annual meeting of the Virginia Council on Health and Medical Care, National Rural Health Conference—and many others.

During the year your Society sponsored a Statewide Conference on Comprehensive Health Planning. The Conference was presented in cooperation with the Virginia Hospital Association and the State Office of Comprehensive Health Planning and attracted a turnout of some 300 physicians, hospital administrators, nurses, nursing home administrators and legislators.

The annual Conference on the Medical Aspects of Sports was presented in Blacksburg and was attended by approximately 150 team physicians, coaches and trainers. This Conference is presented each year in cooperation with the Virginia High School League.

Committees: This issue of the Virginia Medical Monthly contains the annual reports of a good many of our forty-two Committees—"must" reading for all physicians. Many of these Committees met on several occasions—often at considerable inconvenience. But, they did their jobs, and did them well.

Personal Services: Just in case you might have forgotten, we repeat the statement which has become our watchword: "The true value of any professional association can only be measured in terms of services to its members." This we believe with all our hearts.

Perhaps it will be difficult to believe, but your staff handled more than 1,200 individual requests for personal services during the year. These included such things as the completion of reciprocity applications, addressograph services, record research, placement assistance, copies of legislation, insurance information, Selective Service assistance, mimeographing services, meeting arrangements and schedules, reservations—and so on down the line.

It is only fitting that we close this brief report with a special word of appreciation for a most able and dedicated President. His thoughtfulness and consideration have made the past year a pleasant and memorable experience.

ROBERT I. HOWARD
—Executive Secretary-Treasurer

Membership

The past year has been a very quiet one for this Committee. No problems have arisen and no meetings have been necessary.

We would, however, like to take this opportunity to welcome our new members and urge that they participate in the activities of the Society. Every physician should make sure that his voice is heard during these crucial days.

The Committee is particularly pleased to nominate our President, Dr. F. Ashton Carmines, for honorary active membership. Dr. Carmines takes his place beside those whose leadership has enabled The Medical Society of Virginia to steer a straight and dependable course.

R. CAMPBELL MANSON, M.D., *Chairman*
ANDREW HARGROVES, JR., M.D.
FRANK D. DANIEL, M.D.

Editorial Board

Many excellent articles were received and published during the past year.

Two special issues have appeared during 1969. The material in the January issue was prepared by members of the faculty of the Medical School of the University of Virginia and assembled by Dr. John A. Owen, Jr., with the aid of Dr. J. Shelton Horsley, III, a member of the Editorial Board. Six months later (July 1969) a second Norfolk issue appeared and again the material was collected by the tireless Dr. Charles E. Horton who also prepared the first Norfolk compilation last July. Both the University and Norfolk issues were well received.

Several scientific articles that appeared this year in the Virginia Medical Monthly were abstracted and published in other medical journals. A number of our guest

and regular editorials also have been republished in toto since our last committee report.

The *Massachusetts Physician* requested and published an article about The Medical Society of Virginia and the Virginia Medical Monthly. Several illustrations were included. Queries have been received from Massachusetts physicians who were most interested in the silhouette depicting Drs. Archer and Crump, early members of the Society, who fought it out with dueling pistols in 1840. It was pointed out by the author that the practice of medicine in Virginia has always been spirited and exciting. That seemed to satisfy them.

A definitive report on our financial status will not be available until after this issue has gone to press but our outgo will unquestionably be somewhat greater than our intake. Our advertising is gradually increasing from the low of a decade ago, as the result of the Kefauver's investigation, but our publication costs are also rising so we are still slightly in the red.

HARRY J. WARTHEN, M.D., *Chairman*

Ethics

Only one matter of major importance was brought to the attention of your Committee during the year and this would seem to speak well for Virginia physicians. This particular matter was referred by one of our component societies and we would like to encourage others to seek Committee assistance whenever problems arise.

It might be well to mention the "credit card" movement which is gaining momentum all across the nation. The AMA House of Delegates recently upheld the Judicial Council in giving the green light to the use of credit cards by patients who desire them. It should be pointed out, however, that the use of such cards should not increase the cost of medical care to the patient and certainly should not exploit the patient in any way.

Where long term payments of large bills are concerned, AMA recommends "the traditional practice of permitting patients . . . to pay relatively large fees in installments without interest or carrying charges."

The Medical Society of Virginia has always insisted that credit card sponsors contact component societies before setting up any operation in their areas. In this way proper safeguards can be taken to insure that everyone will adhere to sound principles of medical ethics.

W. T. THOMPSON, JR., M.D., *Chairman*
HUGH G. STOKES, M.D.
A. L. VAN NAME, M.D.

Judicial

Your Committee proposes the following amendments to the By-Laws of The Medical Society of Virginia:

ARTICLE IX

Amend the first paragraph by adding "(12) Pharmacy".

Amend the first sentence of the second paragraph to read:

"Each of these committees with the exception of the Committees on Medical Service, Legislation, Public Relations, Meditation, Finance, Blue Shield Directors and Pharmacy shall consist of three (3) members, whose term of office shall be three (3) years."

Amend the third paragraph by adding the following:

"The Committee on Pharmacy shall consist of six (6) members. Following the 1969 annual meeting, the President shall appoint two (2) members to serve for a term of one (1) year, two (2) members to serve for terms of two (2) years and two (2) members to serve for terms of three (3) years. As these terms are completed the President will appoint new members to serve terms of three (3) years. The President shall appoint the Chairman of the Committee on Pharmacy."

Amend Article IX further by adding a Section 13 to read as follows:

"The Committee on Pharmacy will have supervision over all matters pertaining to drugs and their relationship to the practice of medicine, pharmaceutic affairs and the drug industry."

(The purpose of the above amendments is to make the Committee on Pharmacy a standing committee, determine the number of committee members and their terms and identify the Committee's areas of responsibility.)

The Judicial Committee again recommends that the Constitution and By-Laws undergo a thorough revision—particularly in regard to districting, discipline and ethics.

RICHARD H. FISHER, M.D.
CHARLES W. WHITMORE, M.D.
JOHN A. MARTIN, M.D., *Chairman*

Blue Shield Directors

This Committee, composed of those twelve directors of Blue Shield of Virginia appointed by The Medical Society of Virginia, has met quarterly. In addition, many have met with various subcommittees upon other occasions.

During the year, By-laws were amended to permit Board membership of physicians in active practice only if they were participating physicians. This was given careful consideration, since some members of Council of The Medical Society of Virginia did not agree with this. Only two of the entire Board did not vote in favor of this change. Another change was made to provide that Board membership be for a period of five years. One year must elapse before one is eligible for reappointment.

Governor Godwin appointed Virginia Blue Cross and Blue Shield to administer Title XIX (Medicaid) for the State. This started July 1 under the supervision of the State Health Department. The details of "Medicaid" were established under State and Federal law, with certain changes having been required by H.E.W.

Policy changes in "Medicaid" in no way alter the handling of all Virginia Blue Shield programs. The 7510 Plan (usual and customary fee plan) seems to be progressing. Since its inception over 200,000 cases have been processed and less than 30 cases have been brought before the Fee and Allowance Committee as having been

somewhat out of line. In no instance has it been necessary to refer a case to The Medical Society of Virginia Committee for review. We think this speaks well for Virginia physicians.

At present approximately 2,090 physicians participate in the Blue Shield of Virginia Plan.

FLETCHER J. WRIGHT, JR., M.D., *Chairman*

Blue Shield Commission

The Blue Shield Commission has not had a formal meeting since the time of the last annual meeting of the Society in Roanoke in October, 1968. As a result of this meeting Dr. Louis P. Ripley, President of the Board of Directors of Surgical Care, Incorporated, has appointed Dr. Robert L. Keeley, Dr. Warren L. Moorman and Dr. J. E. George as members of the Liaison Committee with The Medical Society of Virginia. Dr. Carmines appointed Dr. Edwin A. Harper, Dr. D. W. Scott and Dr. William R. Hill as members of this committee representing The Medical Society of Virginia.

Surgical Care, Incorporated, still has under consideration the advisability of seeking the endorsement of The Medical Society of Virginia as was discussed at the meeting in October, 1968.

The advisability in doing away with the 4010 program of Blue Shield is under consideration but as yet no definite recommendation has been proposed. Unless other problems are presented this Summer it is doubtful if the Commission will meet before the annual meeting.

WILLIAM R. HILL, M.D.

Cancer

The Cancer Committee recommends the approval of a diagnostic tumor clinic for the R. J. Reynolds-Patrick County Memorial Hospital in Stuart.

During the past year the Cancer Committee, through a number of its members, has worked actively with the Virginia Regional Medical Programs in trying to establish a Statewide tumor registry. Such a tumor registry has been maintained by the State Department of Health for a number of years but, in general, the registry has failed to fulfill the needs of the physicians and patients in the State of Virginia. It is intensely hoped that a new Statewide tumor registry, sponsored by the Regional Medical Program, will be established using the guide lines that have been so successful in the program in Salt Lake City, Utah. The committee urges all members of the State Society to support the Virginia Regional Program in its efforts to obtain funds to establish such a registry.

CLAIBORNE W. FITCHETT, M.D., *Chairman*

Heart, Cancer, Stroke

The Heart, Cancer and Stroke Committee has been quite active during the past year with the Virginia Regional Medical Program, meeting every quarter to advise the program individually and collectively regarding various proposed projects in the State of Virginia. Two representatives from this committee also serve on the Coordinating, Planning and Evaluation Committee for the region. The Medical Society is also represented by two additional members (not committeemen) on the Governor's Advisory Committee which has the final responsibility for the program at the state or regional level.

Since the last annual meeting of the Society, the Regional Program in Virginia has been granted its full request for funds for planning and staffing for the program. As a result, the staff and administrative functions have been vastly improved. For the first time since its inception, the Regional Program has devised an overall program and initial thrusts in heart, cancer, stroke and related diseases have been initiated with proper priorities. As interest in the program and knowledge of what the program can do for physicians and allied personnel is disseminated, the program will begin to show results in upgrading the quality of care in these categorical diseases.

By the time this report is published it is hoped that the Virginia Regional Program will be awaiting the approval from Washington of operational monies to put into effect certain initial projects and pilot studies in our State. Your committee heartily endorses the efforts of the Regional Medical Program and recommends the continuing support of the governing bodies and individual members of the Society on its behalf.

FRANK ALTON WADE, M.D., *Chairman*
HOWARD MCCUE, JR., M.D., *Vice-Chairman*
JASON E. MCCLELLAN, M.D.
ANTHONY J. MUNOZ, M.D.
W. J. HAGOOD, M.D.
ROBERT A. A. MACKINTOSH, M.D.
JAMES L. CHITWOOD, M.D.
O. ANDERSON ENGH, M.D.
JAMES C. RESPESS, M.D.

Medical Education

During the year your Medical Education Committee:

1. Met with representatives from the two medical schools and with the State Board of Medical Examiners and considered the question of the relationship of continuing education to relicensure.
2. Subsequently researched in detail and reported to Council the status in other states of the relationship of continuing education to relicensure and as a requirement for medical society membership.
3. Recommended to Council that additional study be given by the committee to the question of continuing education.
4. Recommended to Council that The Medical Society of Virginia endorse the AMA recognition award to members for continuing education.
5. Participated in the deliberations of a General Assembly created commission to study the feasibility and advisability of utilizing the medical facilities, resources, and professional personnel of Roanoke and other communities in the western part of the state as an affiliated operation of the University of Virginia Medical School.
6. Participated in the deliberations of the committee

on Family Practice Residency of the University of Virginia.

7. Participated in the deliberations on and concurred in the approval of the establishment of a Department of Family Practice to have equal status with other departments at the Medical College of Virginia.

E. L. Alexander, Jr., M.D.
J. Powell Anderson, M.D.
George J. Carroll, M.D.
Robert L. Cassidy, M.D.
Charles E. Davis, Jr., M.D.
F. H. McGovern, M.D.
James M. Moss, M.D.
Thomas W. Murrell, Jr., M.D.
Richard E. Palmer, M.D.
W. Callier Salley, M.D.
Hugh G. Stokes, M.D.
Alexander McCausland, M.D., *Chairman*

Health Careers

This committee was organized to work with the Health Careers Program of the Virginia Council on Health and Medical Care. During the past year this program was presented in 138 schools to an audience of approximately 45,688 students, most of whom were in high school. Requests for additional information were received from 1,490 students, 304 of whom requested more data on medicine as a career.

In the past two years a new program, Partners in Health Careers, has been started by the Virginia Council and 73 hospitals have appointed a hospital liaison officer to work with this program.

The committee has not met as a group, but individually we have been consulting with the Health Careers Program of the Virginia Council on Health and Medical Care under their recently appointed director, Mr. Robert R. Detore.

J. Shelton Horsley, III, M.D.
Robert L. Cassidy, M.D.
Robert K. Duley, M.D.
Fred J. Spencer, M.D.

Advisory to Woman's Auxiliary

The Woman's Auxiliary to The Medical Society of Virginia has had an active and successful year, as may be seen from its report.

Members of your Committee have been consulted but no formal meetings have been necessary.

Raymond S. Brown, M.D., *Chairman*
Carl E. Stark, M.D.
Malcolm H. Harris, M.D.
William Grossmann, M.D.
A. Epes Harris, Jr., M.D.

Maternal Health

The Committee on Maternal Health met twice during the past year. The first meeting was October 14, 1968, Hotel Roanoke, with Dr. Chester Riley, Chairman, presiding.

Statistical information on the number of service (non-physician paying) patients delivered in hospitals by attending staffs was presented. This study was carried out by the Bureau of Maternal Health, State Health Department, upon the request of the Committee. It was stimulated by the apparent, constantly increasing number of such deliveries by attending staff members. The study revealed that 82 hospitals replied to the questionnaire; 6,184 non-physician paying patients were delivered, which was 10.3 per cent of total deliveries in the institutions. Dr. Grossman, Chairman of the Governor's Advisory Committee for Title XIX (Medicaid) indicated much interest in these figures and stated that the information would be very useful to his Committee in its deliberations.

Much discussion was devoted to various ways and means of providing care and delivery services for indigent patients. There was no consensus as to any one best method of providing such necessary service.

The Committee did reaffirm its position of not being in favor of development or use of nurse-midwives.

The new birth and fetal death certificates, which would be used beginning January 1, 1969, were reviewed. Both of these certificates incorporate changes proposed by the Committee upon the request of the State Health Department, Bureau of Vital Records and Health Statistics. Five of the questions on the old certificates have been combined into two questions on the new certificate of birth. These refer to complications relating to pregnancy or labor and birth injuries or malformations. Occupation is no longer requested; education of the parents will provide better knowledge as to the social and educational qualifications. The fetal death certificate contains, where applicable, the same changes. The Committee favors the new certificates and recommends that all physicians and hospitals make every effort to complete the certificates in their entirety.

The subject of small maternity facilities and their probable inability to provide complete modern obstetrical care, particularly for complicated cases, was reviewed.

The Committee met again on May 20, 1969, Blue Cross-Blue Shield Headquarters in Richmond. Title XIX (Medicaid), the first portion of which will be implemented beginning July 1, 1969, was explained by a representative of Blue Cross-Blue Shield. Much interesting and detailed discussion as to the effect both social and financial was provided by and to the Committee. It was the feeling of those present that Medicaid may cause, indirectly, an increase in the cost of obstetrical care to all patients.

The Committee feels that the small maternity facilities, due to their lack of patients, personnel, equipment, supplies and consultation services cannot provide what is generally accepted as adequate maternity facilities and care in a licensed maternity hospital. The Committee approves of the State Health Department recommending to the proprietors of these small facilities modernization in all respects or, if they prefer, closing such facilities.

Consideration was given to the possibility for the Committee to now begin study on maternal morbidity. Inasmuch as the number of maternal deaths has for-

tunately decreased so that in the last year there were but 12 in the State, the thought was expressed that the study of morbidity may be a further step in our efforts to reduce unfortunate outcomes in pregnancy. A suggestion was made that perinatal mortality studies may be equally or more useful since such studies would lead directly to maternal care. This matter of change of purpose for the Committee would need the approval of the Society.

In the calendar year 1968, there were 13 maternal deaths. The provisional rate is 1.6 maternal deaths per 10,000 live births. This is the lowest rate ever for the State of Virginia and the second year in which it is lower than the national rate.

CHESTER L. RILEY, M.D., *Chairman*
JAMES J. DUNNE, M.D., *Secretary*
MASON C. ANDREWS, M.D.
WILLIAM H. COX, M.D.
GARRETT DALTON, M.D.
LEO DUNN, M.D.
JAMES M. HABEL, JR., M.D.
BROCK D. JONES, JR., M.D.
JOHN R. SAUNDERS, M.D.
GEORGE SPECK, M.D.
WILLIAM N. THORNTON, JR., M.D.
FRANK G. TURNER, M.D.

Air Pollution

The Air Pollution Committee has not held a formal meeting this year. However, informal discussions have been held between the Chairman and various members of the Committee from time to time. The Air Pollution Board is currently beginning to hold meetings and hear testimony on air quality standards for various areas around the State. A meeting was held in Fairfax on July 14, 1969. This date conflicted with the Annual Meeting of the American Medical Association in New York.

We were advised by an authority who attended this meeting that the trend of thought expressed by many of the speakers was toward the imposition of very stiff levels of control, which will be extremely difficult to meet. This could impose great hardship on industry in our State.

The Air Pollution Committee will continue to try to work toward a suitable compromise which would provide standards so that the health of the citizens would not be damaged, but which on the other hand would not disrupt industry in the State.

W. S. HOTCHKISS, M.D., *Chairman*

Rehabilitation

During the year, your Committee, which also serves as the Advisory Committee to the Department of Vocational Rehabilitation, through the cooperation of the Councilors of The Medical Society of Virginia, has

1. Enlarged the membership of the Committee to cover additional specialties;
2. Cooperated with the councilors of the Department of Vocational Rehabilitation in procuring medical consultants for area offices;
3. Revised the authorization form, replacing the several different authorization forms for each type of examination by one general authorization form covering one standard authorization for all examinations requested by the Disability Determination Section of the Department of Vocational Rehabilitation;
4. Cooperated with the Department of Rehabilitation in procuring medical consultants for newly created offices in Woodbridge, Bailey's Crossroads, Virginia Beach, Franklin, Martinsville, and Harrisonburg; and,
5. Worked to establish a uniform authorization procedure to cover the services rendered to Rehabilitation clients at the two State medical schools.

ALEXANDER MCCAUSLAND, M.D., *Chairman*
JOSEPH R. BLALOCK, M.D.
FREDERICK M. JACOBS, M.D.
J. TREACY O'HANLAN, M.D.
HUNTER S. JACKSON, M.D.
G. S. FITZ-HUGH, M.D.
FRANK C. MCCUE, III, M.D.
RENO R. PORTER, M.D.
JAMES L. THOMSON, M.D.
CARNEY C. PEARCE, JR., M.D.
DAVID K. WEBSTER, M.D.
JOSEPH T. KAYE, M.D.
WILLIAM D. RUSHER, M.D.
ROBERT J. FAULCONER, M.D.
WILLIAM ORR, M.D.
JOSE D. COLL, M.D.
W. W. WALTON, M.D.
FRANK A. STRICKLER, M.D.

Nursing

A joint meeting of the Liaison Committee of The Medical Society of Virginia, representatives of the State Board of Nurse Examiners, the Virginia Nurses Association and the Virginia Hospital Association was held at Society headquarters on June 17, 1969. Representing The Medical Society of Virginia were: Dr. W. Nash Thompson, Chairman; Dr. John P. Lynch; Dr. Daniel N. Mohler; Dr. James M. Moss; and Dr. Carl Starke. Representing the State Board of Nurse Examiners and the Virginia Nurses Association were: Miss Mabel Montgomery, Executive Secretary of the Board; Mrs. Marilyn Boyd; Mrs. Alese N. Hazelwood; Mrs. Helen W. Wiesmann; Miss Dorsye Russell, President, Virginia Nurses Association; Miss Thelma Bishop, and Miss Marie W. Schmidt. Representing the Virginia Hospital Association were: Dr. Harry C. Bach, President, and Mr. John F. Harlan, Jr.

The minutes of the last meeting were reviewed and the committee was told that a check on laboratories had been made but no regulatory mechanism exists in Virginia at the present time.

A study of the overall laboratory situation was made possible by the 1968 General Assembly and is currently being conducted by the Department of Health.

Dr. Thompson reported that he had attended the Second National Committee of The American Medical Association on Nursing on April 11, and 12, 1969, in Chicago. This committee endorsed all phases of the Nursing program and recommended better liaison between the institu-

tions of higher learning and nurses educational programs. A complete summary of this meeting was sent to the Virginia Medical Monthly.

Miss Montgomery made her usual fine report of the work of the State Board of Nurses Examiners. She reported that nearly 19,000 professional nurses renewed their certificates last year, and that the registered nurses practicing in Virginia are now 14,246, which represents an increase of 1,953 over last year. She also reported that the licensed practical nurses who renewed their license were 6,639, which was an increase of 595 over the previous year.

Miss Montgomery also reported that we now have five schools in Virginia which have a Baccalaureate Degree program for nurses; six communities have Associate Degree programs; and 21 Diploma schools throughout the Commonwealth. There are 43 accredited schools for practical nursing. We are of the opinion that the number of graduates from these institutions is far inadequate to meet the growing demands for health services.

Miss Russell's report from the Virginia Nurses Association stated that "The Proposed Statement on Emergency Electrical Defibrillation" had been approved by The Medical Society of Virginia during 1968. She agreed that the team approach is becoming more and more necessary in the delivery of health services. Miss Russell also discussed the apparent unrest which exists in some areas of the State among the nursing profession and indicated that this should be taken care of on the local level.

The members present had a copy of the report of the Governor's Commission on Nursing. Dr. Lynch, the Medical Advisor to the Governor's Commission, gleaned five positive and practical approaches to the nursing problem which were especially attractive. They are:

1. The recommendation that the State underwrite the purchased academic courses for the diploma hospital based schools.
2. That the position and importance of the State Board of Nurse Examiners be maintained and that the council of higher education be authorized to cooperate with the Board in the field of nurse education.
3. That high school counselors be urged to encourage high school graduates to enter the field of nursing.
4. That the Virginia Council on Health and Medical Care be named as the appropriate vehicle for nurse recruitment.
5. That all schools of nursing grant credit toward completion of requirements for graduation to their students for previously acquired competency and knowledge on the basis of equivalency examinations.

He emphasized the necessity of in-hospital training for both the associate and baccalaureate degree programs.

Mr. Bach, President of the Virginia Hospital Association, offered his support to the Virginia Nurses Association and stated that the Virginia Hospital Association is doing everything possible to develop a closer working relationship with nurses, and expressed the feeling that hospitals can do more by involving nurses in hospital planning affairs.

W. Nash Thompson, M.D., *Chairman*
John P. Lynch, M.D.
Daniel N. Mohler, M.D.
James M. Moss, M.D.
Carl Starke, M.D.
Bradford S. Bennett, M.D.

Mental Health

The Committee on Mental Health met on February 27, April 2, and June 26, 1969.

The Committee, realizing that drug abuse continues to plague a great segment of this country, especially the adolescents, accepted an invitation from a representative of Blue Shield of Virginia to review three films concerning drug abuse that Blue Shield wished to present over several television stations in the State of Virginia. It was learned from the Blue Shield representative that it was the desire of Blue Shield to have The Medical Society of Virginia act as a co-sponsor for the showing of the three films. After reviewing the films dealing with drug abuse, the Committee recommended that the showing of the films be endorsed by The Medical Society of Virginia.

The Committee, during its first meeting, instructed the Chairman to make an effort to have psychiatry represented on the program of the Annual Meeting of The Medical Society of Virginia in October, 1969. The Chairman of the Program Committee was most cooperative, and with his approval, Dr. Thomas P. Detre, Associate Professor of Psychiatry at Yale University School of Medicine, accepted the invitation of the Committee to appear on the program, and will speak on "Psychiatric Emergencies". The paper will be presented as part of a panel on "Medical Emergencies" on Friday, October 17.

The Mental Health Committee, at its first meeting, expressed concern about the lack of psychiatric coverage provided under the Blue Cross-Blue Shield 65 Extended Plan. The Committee met with representatives of Blue Cross-Blue Shield during its second meeting. There was much discussion concerning the plan and the representatives of Blue Cross-Blue Shield assured the Committee that a sincere effort would be made to change this situation in order that psychiatry would not be discriminated against.

The Chairman of the Mental Health Committee attended the Fifteenth Annual Conference of State Mental Health Representatives, held in Chicago on March 14, and 15, 1969. The Conference was sponsored by the Council on Mental Health of the American Medical Association. The theme of the Conference was "Children in the 70's—New Approaches to Their Mental Health". This Conference was well-received and considered most worthwhile.

The Committee had as its guests at the second meeting, Mrs. Robert D. Keeling, President, and Mrs. Julius Swartz, Mental Health Chairman, Woman's Auxiliary of The Medical Society of Virginia. At the third meeting of the Committee, Mrs. Keeling was again a most welcomed guest. Mrs. Keeling and Mrs. Swartz reported on the very forward looking mental health program being carried on by the Woman's Auxiliary. Of particular interest was a program under consideration which would provide young people a place where they could go and

discuss their problems. Here they are screened with the idea that if psychiatric help should be indicated, they could be channeled there in the proper manner.

On June 26, 1969, the Sixth Annual Seminar entitled once again "Psychiatry for the General Practitioner" was held at Westbrook Psychiatric Hospital in Richmond. The Seminar again was sponsored by the Virginia Academy of General Practice, The Mental Health Committee of The Medical Society of Virginia, and The Neuropsychiatric Society of Virginia.

During the third meeting of the Committee, a resolution from the Tri-County Medical Society, which had been referred to the Mental Health Committee by The Medical Society of Virginia, was discussed at length. The Tri-County Society resolution, in substance, had to do with the $50.00 per day fee for commitment of patients to psychiatric hospitals. The resolution stated it believed the $50.00 per day fee to be unrealistic and that every effort should be made to persuade the next General Assembly to change the fee to $25.00 per case. The Tri-County Society requested The Medical Society of Virginia to do all it could to have such legislation adopted. The Mental Health Committee approved the Tri-County resolution and referred it to the Council of The Medical Society of Virginia for final action.

The Norfolk County Medical Society sent to The Medical Society of Virginia a special resolution concerning the detention of the mentally-ill in that county, in the Norfolk City Jail, for several days while awaiting certification hearings. The resolution was in turn sent to the Mental Health Committee for study and action. It was pointed out in the resolution that at present, the Virginia Law makes it unnecessary to detain the mentally-ill in jail pending certification and that physicians are available every day for certification proceedings. The resolution went on to call for strict adherence to those sections of the Virginia Code having to do with detention of patients. The resolution recommended that Virginia Statutes be amended to conform with modern psychiatric practice and asked the Neuropsychiatric Society of Virginia and The Medical Society of Virginia to bring this matter to the attention of the General Assembly. The Mental Health Committee unanimously endorsed the resolution of The Norfolk County Medical Society with the understanding it would now be referred to the Council of The Medical Society of Virginia for consideration.

There was considerable discussion by the Committee of the new procedures whereby mentally-ill patients are admitted to psychiatric hospitals. It was learned that much dissatisfaction has been voiced over the entire State with the new certification procedures enacted by the 1968 General Assembly, under Title 17 of Virginia Code. A subcommittee of the Mental Health Committee was appointed to prepare certain amendments to Title 17 of the Virginia Code, which in turn would be presented to the Council of The Medical Society of Virginia for action.

Other items of importance discussed by the Committee:

(1) Implementation of recommendation No. 49 of the Mental Health Study Commission in providing "a complete and accurate evaluation of the efficiency of Departmental Operations." This has to do with employing qualified programmers and analysts for the Department of Mental Hygiene & Hospitals.
(2) Community Mental Health Services.
(3) Drug Research and Rehabilitation.
(4) Abortions and the V.A.L.C. Study Commission.
(5) Privileged Communications.
(6) The role of The Medical Society of Virginia in continuing education.

The Chairman wishes to express to the remainder of this Committee and to Mr. Robert I. Howard, Executive Secretary, his appreciation for their cooperation and assistance in the formulation of this report.

John R. Saunders, M.D., *Chairman*
W. D. Buxton, M.D.
Joseph R. Blalock, M.D.
Emory F. Hodges, Jr., M.D.
R. Terrell Wingfield, M.D.
Robert B. Neu, M.D.
Robert H. Thrasher, M.D.
William W. Martin, Jr., M.D.

Child Health

A meeting of the Committee on Child Health was held at Society Headquarters on May 29.

1. *Pre-School Survey of Vision and Hearing*—Dr. Anderson read a letter from Dr. Cary N. Moon, Jr., Chairman of the Committee on Conservation of Hearing with refererence to their decision in the screening of pre-school children. It was their opinion that four year olds would be most difficult to test accurately and there would be many false positives. They felt the severely deaf child and the ones that had not developed speech would be recognized long before this time and a screening program for four year olds would only detect a few children with borderline hearing problems.

The Committee was very concerned about the training of volunteers to test the children effectively. It was the unanimous decision of the Committee not to approve a mass screening program as sponsored by the Minnesota State Medical Association. However, it recommended we continue to concentrate on testing children in the first grade and kindergarten and possibly expanding the screening programs now in effect.

Dr. Hunt advised the Committee that the health departments are very concerned about the hearing problems of these younger children and are most interested in exploring the possibilities of having them screened for hearing and vision defects. She went on to say that the earlier you diagnose this type of problem, the sooner treatment could begin and the less expensive it would be. She felt by waiting until school age many cases will have reached the point where treatment might begin too late for effective results.

Dr. Hunt pointed out that in Denver newborn babies are being tested for hearing defects and in some instances the babies have been fitted with hearing aids. The Committee learned kits are available for home teaching for ages two to six and others for infants ranging from six months to two years. Dr. Hunt further mentioned the fact that health officers are checking school children throughout the State with audiometers and trained moth-

ers are assisting in the screening programs. Although this screening is being done, the procedures in testing vary from area to area.

The Committee learned that State schools will be required by law in July of 1970 to train impaired children, and Dr. Hunt feels that by learning of their defects at the earliest possible age will assist the teachers in training procedures. She pointed out that the University of Virginia and Roanoke Memorial Hospitals are screening newborn babies and are also using trained mothers in the testing. These testing procedures are still in the research stages, and the health departments are very interested in the outcome when more information is available.

Further discussion revealed there are quite a number of children in the Southwest area of Virginia with hearing problems. Dr. Hunt pointed out that in one area thirty nine children have recently been screened and the results showed twelve of these had hearing problems. She stated that the health officers in this area of the State have many other problems in health care and are concerned that a great number of children will not receive proper care at an early age.

Dr. Williams confirmed his Committee's decision concerning the screening of pre-school children. He felt very strongly that if tested, there would be many false positives. He went on to say everything possible should be done to improve the testing procedures already in existence in our school systems.

Dr. Kendig raised the question of what follow-through procedures are available after the hearing problems are detected. It was learned that the Bureau of Crippled Children is very interested in this phase and at present is providing hearing aids and treating seven hundred persons ranging from infants to those twenty one years of age. Further discussion revealed the education of these children is a most serious problem, as teachers qualified in this field are limited. Dr. Ownby pointed out that some parents are hiding the facts from themselves where brain damage might exist in their children and are substituting a hearing problem for the reason of impairment. Dr. Beale stressed the need for educating all parents in the importance of having infants checked more often than once a year. He stated in many instances parents say they have a physician for their children but hardly ever bring the child for an examination.

After further discussion, the Committee decided *it would not endorse a State wide pre-school survey at this time but would strongly recommend that all physicians check children for hearing defects, beginning at the age of eight months.*

Dr. Anderson asked Dr. Childrey if he would comment on the screening of young children for vision defects. Dr. Childrey pointed out to the Committee he felt an eye examination would detect most vision problems even at a very early age. He went on to say that here again the educating of parents was very important in having children see a physician for a complete examination, and in this way, eye defects can be detected and treatment can begin early in life. He stated that Dr. Mack I. Shanholtz, State Health Commissioner of Virginia, has written an excellent article concerning eye defects in children, and this article was published in the May issue of The Virginia Medical Monthly.

The Committee learned that in those communities without local resources for the medically indigent the Virginia Commission for the Visually Handicapped will provide an eye evaluation and refraction free of charge. To aid further in the earliest possible detection of eye defects the Bureau of Child Health of the State Department of Health will make available to physicians a new, simple, parent-administered screening test. The test is a hand card designed for the aptitude of a child three or four years of age to correctly identify the position in which the image of the human hand is rotated. Dr. Edwards stressed the need for parents to accept the responsibility of seeing that children have refractions done before school age.

Dr. Hardy stated that in his area they are having a great problem with optometrists in that more patients are being treated by this group than ever before. The Committee felt that this is a Statewide problem, the main reason being that obtaining an appointment with an ophthalmologist sometimes takes as long as six months.

The Committee discussed the administering of silver nitrate to the eyes of newborns and wondered if another solution might be used just as effectively. It was pointed out that the law pertaining to the use of silver nitrate is still on the books in Virginia, and the Secretary was instructed to obtain copies of this law for the Committee. In order to make available all the facts possible, Dr. Anderson asked Dr. Hunt if she would find what other states were doing with reference to the use of silver nitrate and have this information available for the Committee.

2. *Immunizations*—Dr. Anderson advised the Committee that the question had come up as to whether nurses working for the Health Department could give immunizations without physicians being present. Dr. Kendig pointed out that in his office nurses had been instructed not to give immunizations unless a physician is present, and by being in a group practice one is usually in the office at all times. Dr. Kendig went on to say that regardless of whether the physician is present or not, he is held responsible for his nurses and that some physicians did not require that they be present when immunizations are given. Dr. Hunt was hopeful that the Committee might offer a recommendation to the Health Department which could be used as a guide line. After further discussion, the Committee recommended that *nurses be permitted to give immunizations without the physician being present in clinics and other facilities if in accordance with local procedures and local health officers.*

3. *Adoptions*—The Committee recommended in April of 1967 that all adoptions should go through an accredited adoption agency. Council believed the Committee's recommendation to be entirely reasonable, and a motion of approval was seconded and adopted. However, during a later meeting of Council, the thought was advanced that perhaps certain legal aspects of the matter should be clarified and the entire subject discussed more in detail at a later date. The Committee was advised that adoption procedures would again be discussed by Council in Sep-

tember. After considerable discussion, the Committee realized that in certain cases it was possible for an adoption procedure to run very smoothly without going through an adoption agency. However, to protect the child and the prospective parents, the Committee still felt they would stand on their original decision and recommend that *adoptions should be processed through an accredited adoption agency as a general procedure.*

4. *Sex Education*—Dr. Anderson read the following excerpts from the minutes of Council, September 15, 1968:

> "The Committee on Child Health also asked Council to give its support to a program of sex education in Virginia schools. The Committee has reason to believe that most parents favor such courses provided they are well planned and presented at a fairly high grade level.
>
> It was agreed that such courses must be done from the very beginning. Otherwise, more harm than good would result. It was mentioned that the State Department of Education has been making a sincere attempt to obtain qualified instructors.
>
> Dr. Stark then offered a motion calling for The Medical Society of Virginia to support sex education in Virginia Schools, provided the program is well planned and properly presented. The motion was seconded and adopted."

Dr. Anderson felt no further action was necessary at this time.

5. *Physical Examination Forms*—The Committee had recommended during a previous meeting the need for a standard examination form to be used state wide. It was pointed out that many of these forms are quite lengthy and time-consuming, and the Committee had presented a form designed by the American Academy of Pediatrics for the recommendation of Council. The thought was expressed by Council that possibly a newer form was available from the American Academy of Pediatrics and referred this back to the Committee. Dr. Anderson pointed out that a new form is available at this time and asked Dr. Hunt if she would secure a copy so that the Secretary might distribute it to the members. Dr. Anderson asked Dr. Hunt if she would look over this form and make any changes she thought advisable.

6. *Child Abuse*—Dr. Anderson felt that the Society's Liaison Committee to the State Bar should be advised of the serious child abuse problem we have in the State and requested to give it careful consideration. Dr. Anderson went on to say that in his area of the State this was still a most serious problem and the cases of child abuse are increasing every day. Further discussion revealed that other areas of the State are having the same problem, and it is the hope of the Committee that something can be done to remove the children from parents who have inflicted this terrible punishment on their children. The Society's Liaison Committee to the State Bar will meet on June 18, and it is hoped they will offer some solutions that might protect children from this abuse.

Robert H. Anderson, M.D., *Chairman*
Harry D. Cox, M.D.
Robert M. McDonald, M.D.
William D. Liddle, M.D.
Ralph Ownby, Jr., M.D.
Jefferson D. Beale, Jr., M.D.
W. Glenn Hardy, M.D.
Kathryn D. Hill, M.D.
Julia E. Edmunds, M.D.
Nelson S. Payne, M.D.
Edwin L. Kendig, Jr., M.D.
Patricia Hunt, M.D.

AMA Delegates

The Medical Society of Virginia was well represented at both the AMA Clinical Session at Miami Beach in November and the annual meeting at New York in July. All three Delegates were on hand for sessions of the House of Delegates and two Alternates were also in attendance.

It is with great pleasure that we report the election of Dr. Richard E. Palmer, one of our Alternate Delegates, to the Council on Medical Service. The Council is a particularly active and highly regarded component of AMA and Virginia physicians have a right to be proud of this well-deserved honor bestowed on one of our own.

Since the many actions of the House have been reported in detail in both the American Medical News and Journal of the American Medical Association, we will not attempt to repeat them here. Should, however, information be desired on any specific action, you are invited to write our Executive Secretary.

A checklist of items considered by the House includes health care for the poor, malpractice insurance, medical education, advertising of laboratory services, peer review, AMA membership for osteopaths, tax credit for health insurance, more voice for specialty groups, labeling of prescriptions, sex education, use of credit cards, opposition to licensure, drug abuse, anti-smoking campaigns, condemnation of chiropractic, sports medicine, medical unity, nursing school subsidy, diploma and practical nurse programs—and many, many more.

Your Delegates would urge all members of The Medical Society of Virginia to attend a meeting of the AMA House of Delegates at their first opportunity. Only in this way can one really appreciate the tremendous task faced twice each year by this body.

We appreciate the privilege of representing you in the AMA House of Delegates.

W. Linwood Ball, M.D.
Allen Barker, M.D.
W. Callier Salley, M.D.

Medicine and Religion

The past twelve months have been busy ones for your Committee, particularly with reference to local and regional meetings.

A meeting was held at Society Headquarters on December 13, 1968. The main purpose of this meeting was to have Mr. Arne Larson, Assistant Director, Department

of Medicine and Religion of AMA explain the Theological Seminary Project. The American Medical Association's Board of Trustees developed a research project in April of 1965. Since that time, information has been gathered supporting the idea that organized medicine can be of great assistance in the training of theological students. Mr. Larson pointed out that possibly one-third of the county medical societies throughout the country have joint programs in which physicians and clergymen discuss problems of total patient care.

The Southeastern Medicine and Religion Regional Meeting was held in Atlanta on March 15, 1969. Dr. Paul B. McCleave, Director of the Department of Medicine and Religion of AMA, presented a brief, but comprehensive, breakdown regarding the purpose of Medicine and Religion Programs. He stressed the importance of close work between physicians and clergy in an attempt to provide optimum total patient care, emphasizing the fact that individual faiths are not a barrier and that, through a better understanding, faiths of all denominations could work toward this goal.

On March 28, the Committee was represented at a special meeting at the Portsmouth Naval Hospital. We learned that the Hospital had a very active program on Medicine and Religion and that a one day symposium would be held on June 12.

The Symposium in Portsmouth was very successful, and drew an attendance of 175 physicians, clergy, and hospital chaplains of all branches of the Armed Forces. The main theme for the Symposium was "The Therapeutic Team of Physician and Minister", and four speakers participated. A showing of the film, "The One Who Heals", was well received, and the day's activities closed with a panel discussion.

All in all, the Committee has reason to feel somewhat encouraged over the year's activities. There has been a definite growing awareness of the important role religion plays in overall patient care, and your Committee hopes to develop this awareness into a truly constructive and successful program.

John Wyatt Davis, Jr., M.D., *Chairman*
Charles R. Riley, M.D.
Philip Austin, M.D.
Bernard H. Kasinoff, M.D.
Joseph M. Straughan, M.D.
James Harris, M.D.
George S. Mitchell, Jr., M.D.

Public Relations

Public relations is something that no one—including physicians—can ignore. The truth of the matter is that each of us is involved with public relations each time we meet or speak with another individual. And—there are just two kinds of public relations—good and bad! Now, if we will just stop for a moment and think about that statement, we can readily understand why it is essential for all of us to become PR conscious. Goodness knows, we have enough problems these days without making things worse because of poor public relations. These are days of decision—certainly as far as the public is concerned. Let us make sure that the odds are in our favor.

The past year has been an interesting one for your Committee. Once again, senior medical students at the University of Virginia and Medical College of Virginia were guests of the Society at special Senior Day programs in Charlottesville and Richmond. Both groups heard Dr. F. Ashton Carmines, President of The Medical Society of Virginia, discuss what the future holds for the young physician. He had some excellent advice, based on his own experience in selecting a proper location and establishing a practice.

Your Committee again planned and presented a Conference on the Medical Aspects of Sports. The conference was held in the VPI Coliseum and presented in cooperation with the Virginia High School League. Approximately 150 physicians, coaches and trainers attended the conference and we become more convinced each year as to its value.

Once again, we are pleased to report that the Society's Committee on Rural Health presented awards to winners of the 4-H Club Health Project. The awards were presented by Dr. Emory Irvin during a special ceremony at VPI.

Radio and TV once again played an important part in our overall public relations program. Public service tapes and transcriptions, obtained through the American Medical Association, were used by a great many stations over the State. It is surprising just how many inquiries your State office receives as a result of these short "fillers" which are used at all hours of the day. We take this opportunity to express our appreciation of the splendid cooperation we continue to receive from our radio and TV friends.

Your Chairman continues to be active in the medical assistant movement and takes great pleasure in reporting that Mrs. Ruth Dize, Norfolk, will soon take office as President of the American Association of Medical Assistants.

In closing, we would like to make it clear that no committee can develop good public relations by itself. The Committee can call attention to a problem and perhaps point in the right direction, but the real job is up to you!

John Wyatt Davis, Jr., M.D., *Chairman*

Advisory to Virginia Hospital Association

Your Committee continues to meet at regular intervals with representatives of the Virginia Hospital Association and can report that our working relationship with that organization has never been better.

This year, for the first time, our two groups met with representatives of the Virginia Nursing Home Association and it came as no great surprise to learn that all of us have much in common. The Nursing Home Association will be represented at all future sessions.

Although a great many matters were discussed, we will briefly review those of special interest.

Union Threat: Unions have recently launched a campaign to organize many of Virginia's hospitals. As this report is written, several hospitals in the eastern part of the State are the primary targets. Your Com-

mittee learned that the hospital boards concerned have thus far expressed strong opposition to the union effort and plan at this time to withhold recognition.

As in most such instances, unions are using alleged discrimination as a reason to organize the workers. Although they are also interested in obtaining higher wages, decision and policy-making are high on their list of objectives. Needless to say, our hospitals are much concerned about the immediate future.

Medicaid: Virginia's Title XIX Program became effective July 1 and the result will undoubtedly be a staggering increase in health care costs. There exists serious doubt concerning the predicted ultimate cost of $30 million to Virginia taxpayers. The Governor has already indicated that the figure could go much higher—perhaps three times greater than the original estimate. Considerable concern was expressed over the lack of public awareness and interest in Title XIX and its eventual effect on our State.

Hospital Care Costs: Your Committee learned that at least one hospital in the District of Columbia has reached the $100-a-day level and that several Virginia hospitals are in the mid-$90 bracket. There seem to be no really effective controls as long as the inflation spiral continues.

Hospitals are somewhat concerned by the elimination of the 2% factor in hospital cost reimbursement under Medicare. This will pose quite a hardship for some hospitals—particularly those which can document sizeable losses under the Medicare program.

Hospital Board Meetings: Your Committee believes that it is most important for physicians to serve as members of hospital boards of trustees. It is recognized, however, that it is not always easy for physicians to attend board meetings at certain hours of the day and hope has been expressed that efforts will be made to make board meetings as attractive and convenient as possible.

Nurse Practice Act: The Virginia Hospital Association will definitely support the Virginia State Nurses' Association in its efforts to amend the Nurse Practice Act. The Medical Society of Virginia has withheld official support until the report of the Governor's Committee on Nursing can be reviewed.

Osteopaths: The matter of hospital privileges for osteopaths was discussed at some length and there seems to be no general problem at the moment. The Medical Society of Virginia has given the matter a great deal of thought and feels that final decisions should be properly made by the hospital staffs concerned. This, of course, is pretty much in keeping with the thinking of the American Medical Association which has long believed that the osteopathic problem can only be resolved at state and local levels.

Emergency Room Services: It was learned that the Committee on Trauma of the American College of Surgeons is interested in cooperating with state chapters in evaluating emergency room services in the various states. These evaluations have proved most helpful in the past and resulted in many improvements. Most hospitals are expected to cooperate.

VHA Industrial Engineering Program: This particular program was reported to be proceeding very nicely. Since very few physicians know much about it a suggestion was made that an article be prepared for publication in The Virginia Medical Monthly. It is hoped that this can be accomplished in the very near future.

These were just a few of the matters discussed by our joint committees and, as you can see, we found a number of areas of mutual interest and cooperation.

James Asa Shield, M.D., *Chairman*
Dennis P. McCarty, M.D.
John T. Myles, M.D.
Earnest B. Carpenter, M.D.
Richard F. Clark, M.D.

Liaison to State Bar

The Joint Medico-Legal Panel for screening medical malpractice cases has held five hearings thus far this year and it is quite possible that two others will be held before the annual meeting.

There is some indication that both lawyers and insurance carriers are beginning to regard the Panel in a kindlier light, and this is most encouraging. Only through maximum utilization can the Panel's full potential for good be realized.

A continuing effort is being made to publicize the Panel and its purpose. Your Chairman addressed a meeting of the American Association of Medical Clinics, Southeast, in Fredericksburg on April 5 and his talk was published in the June issue of The Virginia Medical Monthly. We are very pleased to report that the article has been widely read and a number of inquiries have been received from other areas of the country.

The Rockingham County Medical Society presented a special program on the Joint Screening Panel during its June meeting and had as its guests lawyers from that part of the Valley. The program was well received and it is hoped that other component societies will arrange similar presentations.

Your Committee had one grievance referred to it during the year. The grievance originated with a member of the State Bar and we believe it was resolved to the satisfaction of all concerned. The Committee also considered a problem involving child abuse which was referred to it by the Committee on Child Health, and we hope very much that our Committee's advice will prove helpful.

It has been brought to the Chairman's attention that our supply of the booklet entitled "Standards of Principles Governing Lawyers and Physicians in the Commonwealth of Virginia" is nearly exhausted. This little publication was the result of a joint effort by The Medical Society of Virginia and Virginia State Bar and has proved extremely popular. As a matter of fact, a number have been sent to interested parties in other states.

The American Medical Association has expressed interest in our working relationship with the State Bar and we have provided two reports during the year.

Carrington Williams, Jr., M.D., *Chairman*

Conservation of Hearing

The Committee on Conservation of Hearing, May 12, 1969, at the Hotel Roanoke, Roanoke.

The full Committee reviewed, completed and approved the Model Bill for Licensing of Hearing Aid Dealers and Fitters. This is the bill that has been approved by the National Hearing Aid Society, the Committee on Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology, and by the Hearing Aid Industry Conference. We made some relatively minor changes in the bill and filled in the blanks that were necessary regarding fees. The altered bill was approved unanimously by the Committee.

The bill was sent to each member of the subcommittee of the Committee on Conservation of Hearing. This subcommittee had been appointed by the Chairman and consisted of three hearing aid dealers, three audiologists and three otolaryngologists. The majority of the members of the subcommittee approved the bill as presented and, therefore, it was the opinion of the Chairman that an official meeting of this subcommittee was unnecessary. The bill was approved by the Virginia Society of Ophthalmology and Otolaryngology.

The Legislative Committee of the Virginia Hearing Aid Dealers Association, Inc., met with their counsel, Mr. Paul M. Shuford of Richmond. He notified the Chairman that the Virginia Hearing Aid Dealers Association, Inc., approved of the bill in general and would be glad to help in presenting it to the General Assemhly.

As requested, the Committee on Conservation of Hearing discussed the advisability of The Medical Society of Virginia's endorsement of a pre-school medical survey of vision and hearing such as the program sponsored by the Minnesota State Medical Association. It was the opinion of the Committee that we were opposed to this screening survey. The reasons for our opposition were forwarded to Dr. Robert Anderson, Chairman of the Child Health Committee. Dr. George Williams met with their Committee on May 29 to present our position concerning the advisability of sponsoring pre-school surveys of vision and hearing.

Cary N. Moon, Jr., M.D., *Chairman*
Neil Callahan, M.D.
John B. Gorman, M.D.
John G. Sellers, M.D.
W. Copley McLean, M.D.
George H. Williams, M.D.
Houston L. Bell, M.D.
Alvin B. Mirmelstein, M.D.

Insurance

Two meetings were held by your Committee during the year and we sincerely believe that a great deal was accomplished.

As most of the membership is aware, professional liability insurance (malpractice) has become a matter of great concern over the nation. There is no doubt but that we are living in a suit-conscious age and the number of claims seems to increase each successive year. Consequently, the carriers offering professional liability insurance are becoming more and more cautious in their underwriting habits.

This general tightening up on the part of the carriers, while not as noticeable in Virginia as elsewhere, has posed some problems and raised some questions concerning the future of professional liahility coverage in our State. As a result, your Committee devoted most of one session to the liability problem—meeting jointly with representatives of the St. Paul Company. We are pleased to report that the Society's professional liability program will continue pretty much as it has since 1956. Our working relationship with St. Paul continues to be excellent and members of the Society have every right to be proud of their program.

We regret, however, that our annual review of the program's experience factor made it necessary to approve an increase in basic rate levels and excess limits. In spite of these increases, there are but five states with lower rate structures.

Your Committee takes this opportunity to express its appreciation of the splendid effort being made by the Joint Medico-Legal Panel for screening medical malpractice cases to effectively control the nuisance suit problem. It is our understanding that insurance carriers are cooperating better with the Panel and this could be a very good sign. It is very important that the Panel be used just as much as possible. Only in this way can it become truly effective.

The Society's life insurance program is now in effect and is being underwritten by Fidelity Bankers Life Insurance Company of Richmond. Those members who might be interested in the program can obtain full details by writing the John E. Woodward Insurance Agency, P. O. Box 2430, Richmond Virginia 23218. Policies are being written on an underwriting basis at this time.

The Society's other insurance programs are doing quite well. Information concerning disability, major hospital, professional overhead, retirement and accidental death programs can be obtained by writing the Executive Secretary. He will be pleased to see that descriptive brochures are mailed to you.

Your Committee is trying very hard to provide the kind of insurance programs you wish. It is always pleased to receive any thoughts or suggestions you might have and will try to solve any problem you bring to its attention.

A. L. Herring, Jr., M.D., *Chairman*
C. M. McCoy, M.D.
W. D. Lewis, M.D.
Alvin E. Conner, M.D.
John W. Giesen, M.D.
David V. Strider, M.D.
Robert F. Bondurant, M.D.

Executive Committee

Two meetings were held by the Executive Committee during the past year both at the request of the President. The Committee serves only in an advisory capacity and is very pleased that our presidents are finding its counsel helpful in making important decisions.

Among matters discussed during the meetings were

departments of family practice in medical schools, relationship of continuing education to licensure, comprehensive health planning, VA Home Town Care Program, future mission of The Medical Society of Virginia and the Joint Commission on the Accreditation of Hospitals.

Your Committee sincerely believes that the past year has been one of considerable accomplishment and appreciates having had the privilege of working with Dr. Carmines.

WILLIAM GROSSMANN, M.D., *Chairman*
W. CALLIER SALLEY, M.D.
MACK I. SHANHOLTZ, M.D.
W. D. LIDDLE, M.D.

Medical Service

Your Committee considered a number of important matters during the year. The following are reported because of their particular interest:

Cost of Medical Care: As a result of a request by Council, the Committee is currently conducting a study of health care costs in Virginia. Council's directive came about as a result of the fact that physicians have been unjustly accused of being responsible for the increase in health care costs.

Lay Laboratories: The Committee was pleased to learn that the State Department of Health is well along in the study of the laboratory situation in Virginia. The study was directed by a joint resolution adopted by the General Assembly in 1968 and should be completed during the early fall. It is hoped and expected that from this study will evolve legislation designed to properly and effectively regulate laboratories operating in our State.

Health Insurance Council: Your Committee met at some length with representatives of the Health Insurance Council and discussed a number of subjects of interest and concern to both groups.

The work of the Society's special review committee was discussed and it was agreed that such activity should be carried on at the State level. Although AMA leans toward the local approach, the Committee believed that this might not work too well in Virginia. There are only four or five large component societies in our State and this fact alone would seem to make the State approach more practical.

Other matters discussed included hospital utilization review, diagnostic workups on an out-patient basis, progressive care units, comprehensive health planning, the "physician's assistant" movement, and the apparent shortage of family physicians.

Your Committee is pleased with the close working relationship existing between The Medical Society of Virginia and Health Insurance Council. We feel that the usual and customary approach to the payment of physicians' fees is a good example of what can be accomplished when the professional and industry work closely together.

WILLIAM D. DOLAN, M.D., *Chairman*

Liaison to State Department of Health

This Committee normally meets at the request of the State Department of Health. No matters were referred to it this year and, consequently, no meetings were necessary.

It seems appropriate to take notice of Virginia's Medicaid program—which became operational on July 1. Your Committee is pleased that Medicaid officials consulted the Society on numerous matters pertaining to the program and worked very closely with Council.

Your Committee takes this opportunity to express its appreciation of the close working relationship which The Medical Society of Virginia enjoys with the Department of Health.

GEORGE J. CARROLL, M.D., *Chairman*

Woman's Auxiliary . . . .

Forty-Seventh Annual Convention Woman's Auxiliary to The Medical Society of Virginia

October 16, 17, 18 and 19, 1969

Americano Hotel
39th and Ocean Front
Virginia Beach, Virginia

A cordial invitation is extended to all members of the Woman's Auxiliary to The Medical Society of Virginia, their guests, and the wives of physicians attending the convention, to participate in all the social functions and to attend the general meetings of the Auxiliary. Members and guests are requested to register.

REGISTRATION HOURS

Thursday, October 16:
1:00 to 6:00 P.M.—Americano South—Lobby

Friday, October 17:
8:00 A.M. to Noon—Americano South—Lobby
3:00 P.M.-5:00 P.M.—Americano South—Lobby

THURSDAY, OCTOBER 16

3:00 P.M.—Pre-Convention Board Meeting—Americano South

All State Officers, Directors, Committee Chairmen, County Presidents and Presidents-Elect are expected to attend. Out-of-State Auxiliary guests are invited. Mrs. Robert D. Keeling, President, presiding.

4:30 P.M.—Tea—East Porch—Americano South
Auxiliary to the Virginia Beach Medical Society honoring Mrs. Robert Keeling, President, Woman's Auxiliary to The Medical Society of Virginia, and honored guests of the State Auxiliary.

7:00 P.M.—VaMPAC Banquet, Cavalier Hotel

FRIDAY, OCTOBER 17

8:00 A.M.-8:45 A.M.—Continental Breakfast—Americano South—Lobby

9:00 A.M.—Formal Opening—Forty-Seventh Annual Meeting—Americano South

Mrs. Robert D. Keeling, President, presiding

Invocation—Mrs. F. Clyde Bedsaul, Chaplain

Pledge of Allegiance to the Flag

Pledge of Loyalty

"I pledge my loyalty and devotion to the Woman's Auxiliary to the American Medical Association. I will support its activities, protect its reputation and ever sustain its high ideals."

Address of Welcome—Mrs. John Krueger, President, Auxiliary to the Virginia Beach Medical Society

Response—Mrs. Robert Schultz, President-Elect, Auxiliary to the Rockingham County Medical Society

Greetings—William Grossmann, M.D., President-Elect, The Medical Society of Virginia

Presentation of Honored Guests—Mrs. Robert D. Keeling

Convention Announcements—Mrs. K. K. Wallace, Jr.

Convention Rules of Order—Mrs. Thomas Hunnicutt, Jr., Parliamentarian

Roll Call—Mrs. Harold Williams

Minutes of the Forty-Sixth Annual Convention—Report of the Reading Committee—Mrs. Nash Thompson

Report of Treasurer—Mrs. Herbert W. Rogers

Report of Auditing Committee—Mrs. Thomas Hunnicutt, Jr.

Report of Credentials Committee—Mrs. William Johnson

Report of Awards Chairman—Mrs. L. C. Strong

Report of Finance Chairman—Mrs. Walter Porter

Recognition of State Officers and Committee Chairmen

Recommendations from the Board

Unfinished Business

New Business

Greetings from Southern Medical Auxiliary—Mrs. Virgil Forrester

Keynote Address—Mrs. Robert Beckely, Treasurer, Woman's Auxiliary to the American Medical Association

Presentation of State Scrapbook—Mrs. Elliott Oglesby, Historian

Report of Delegates to Forty-Sixth Annual Convention of Woman's Auxiliary A.M.A.—Mrs. Joseph Straughan

Report of Nominating Committee—Mrs. Daniel Anderson

Election of Officers

Courtesy Resolutions—Mrs. Reuben F. Simms

Memorial Service—Mrs. Clyde Bedsaul, Chaplain

11:45 A.M.—Adjournment

12:15 P.M.—Luncheon—Crystal Room—Mrs. Robert D. Keeling, President, presiding.

Music—Trio from The Virginia Beach Recorder Society

Invocation—Mrs. F. Clyde Bedsaul

Recognition—Honored guests and past presidents

Presentation of President's Scrapbook—Mrs. Elliott Oglesby

Luncheon

"His Fair Lady"—A playlet by members of the Auxiliary to the Virginia Beach Medical Society and the Virginia Beach Little Theater.

Installation of Officers—Mrs. Robert Beckely

Acceptance—Mrs. Joseph Straughan, Wise, New President

Presentation of Pin and Gavel—Mrs. Robert Keeling

Presentation of Past President's Pin—Mrs. Daniel Anderson

Convention Announcements—Mrs. K. K. Wallace, Jr.

Convention Acknowledgments

Adjournment

6:30 P.M.—Medical College of Virginia Alumni

Cocktails—Pool Loggia—Cavalier Hotel

Dinner—Main Dining Room—Cavalier Hotel

University of Virginia Alumni

Cocktails—Colonial Room—Cavalier Hotel

Dinner—Cavalier Room—Cavalier Hotel

SATURDAY, OCTOBER 18

8:00 A.M.—Past President's Breakfast—East Porch—Americano South

8:30-9:15 A.M.—Continental Breakfast—Lobby—Americano South

For all those attending Post Convention Board Meeting

9:30 A.M.—Post Convention Board Meeting and Workshop—Americano South

Mrs. Joseph Straughan, President, presiding. All new State Officers, Directors, Committee Chairmen, County Presidents and Presidents-Elect are expected to attend. Out-of-State Auxiliary guests are invited.

12:00 Noon—Board buses from the Americano and Cavalier Hotel to the Navy Piers for LUNCHEON ABOARD NAVY CARRIER

4:00 P.M.—Nominating Committee Meeting—Mrs. Robert Keeling's suite, Americano North

6:30 P.M.—Annual Banquet—The Medical Society of Virginia

Cocktails—East Porch and Pool Loggia—Cavalier Hotel

Dinner and Dance—The Cavalier and Virginia Rooms—The Cavalier Hotel

MISCELLANEOUS INFORMATION

Hospitality—Room 256, The Americano North: Thursday 1:00 to 5:30 P.M.; Friday 3:00 to 5:30 P.M.; Saturday 9:00 to 12:00 Noon and 3:00 to 5:30 P.M.

Scrapbooks will be on display in the Hospitality Room.

Golf—Thursday—1:00 P.M. Cavalier Yacht and Country Club. You are requested to sign up at the Registration Desk located in the Americano South and to obtain a guest card from your hotel.

Tennis—The Capes Beach Club. You are requested to sign up at the Registration Desk located in the Americano South and obtain a guest card from your hotel.

Tickets for both luncheons will be available at the Registration Desk in the Americano.

Continuous jitney service will run between The Americano, The Cavalier and the Convention Center (headquarters for the Society program and exhibits).

School Days Once Again

. . . for our young ones. Tanned faces and healthy bodies stride through the portals into their halls of learning. Mrs. John M. Chenault, president of the Woman's Auxiliary to the American Medical Association, has as the theme for this year "Active leadership in community health with the accent on youth". Our thoughts are never far from this, at a quick glance, homogenous mass of individuals. Careful observation indicates each, with their varying goals intent in their efforts to glean knowledge from the leaves between the covers of their textbooks. The problems which beset them in their efforts to mature and assume their place in this chameleonic world will concern us at the October medical convention among numerous other subjects of interest. Many carefully laid plans of the county auxiliaries are nearing readiness for implementation this autumn. Delegates approach the state convention with open minds ready to observe new programs to relay ideas to their membership. Ocean breezes and pounding surf

should provide the catalytic agents necessary to unite stimulating thoughts and productive ideas. The wives of all Virginia physicians are cordially invited to attend the convention. Pleasant weather is the long-range forecast. Temperatures at this time of the year are usually in the seventies. Low heeled shoes are recommended for the annual luncheon which promises to be a *gala affair* aboard an *aircraft carrier*. The auxiliary members are to be guests of the United States Navy at that time.

Culmination of a Fruitful Year

. . . for our president will see completion in Virginia Beach. The Virginia report to the AMA auxiliary has demonstrated that in July's auxiliary article. Mrs. Robert D. Keeling's feet have barely touched the ground with her busy schedule this past year working for us. Mrs. Joseph Straughan, president, elect, was a scant two paces behind her; providing a congenial helpful companion in their travels. Plans were set in motion following the Virginia convention in Roanoke by attending the convention of the Southern Medical Association in New Orleans. The Wise County Auxiliary received the Feldner cup at that time.

Dot Keeling's talents are definitely appreciated outside the Virginia borders since the Woman's Auxiliary to the Seaboard Surgeon's Association elected her their first vice president at the convention in Naples, Florida, this last year. Dot represented the auxiliary at the convention of the Medical Society of North Carolina and the White House Conference on Children and Youth in Richmond. She supported and attended the "Special Workshop on Children and Youth" in Richmond as well as the "Workshop on Mental Health Problems" in Petersburg sponsored by the auxiliary. Dr. John Saunders, chairman of the medical society's mental health committee invited our president to attend their meetings this past year. Further plans indicate Dot and May will attend the New York Medical Convention and the West Virginia Medical Convention before joining all of us in Virginia Beach. Numerous other projects not included here have been covered as well. Most certainly the role of good will ambassador has been capably fulfilled. Our president's visits to the county auxiliaries urged them to be aware of their roles as ambassadors for the medical profession and "*our raison d'etre,* our chief reason for being", as quoted from the handbook "we are organizing to cultivate friendly relations and mutual understanding among physicians and families". Dot conveyed "I would like to express my appreciation to the board members and auxiliary members who have given generously of their time and of themselves in cooperating with me to make it a successful year."

Mrs. Hans J. Klapproth

Editorial . . . .

If Obstetrics Becomes Scientific

DURING the last Atlantic City meeting of the American College of Surgeons one morning was devoted to a panel discussion of the various new ways of monitoring the fetus. The audience was given a striking impression of how obstetrical art is trying to enter the medical scientific age. There is another implication which affects all of medicine. It will be indicated later.

The simplest modality seemed to be that of urinary estriol determinations. Estriol is the end product of the metabolism of fetal adrenal hormones. A concentration of above 8μ in the urine is an indication that the fetal adrenals and liver and the maternal liver are functioning well. At levels below 8μ the fetus is in trouble and termination of the pregnancy should be considered. The laboratory equipment for this test is expensive, in the $4,000 range. Because of variations tests should be run daily or every other day beginning about 10 days to two weeks before the EDC. The test is of little value in cases of Rh-sensitization and preeclampsia. Since each test can hardly cost less than $15 and since as many as twenty tests per case might be needed, this approach could become quite costly. In some of the cases quoted the cost per pregnancy was as much as $500.

Again, one can do an amniocentesis for purposes of chemical and biological analysis. This means is particularly of value in cases of probable erythroblastosis. Also, by chromosome studies of the cells obtained, such a catastrophe as mongolism can be predicted or ruled out. This procedure is limited by consideration of the possible damage to fetal parts and by the fact that, after all, you can safely needle a given amniotic sac only so many times.

A direct method of evaluating the baby's condition is by drawing off scalp blood for microchemical analysis of pH, CO_2 sugar, etc. This is done after rupture of the membranes by introducing a round speculum through the cervix and lancing the fetal scalp. There is sometimes much difficulty in stopping bleeding. Some cephal-hematomas have resulted. A real drawback to the usefulness of this procedure would be the time element. By the time the first sample could be reported the baby's situation might well be different.

Another approach is fetal electrocardiography. After amniotomy, electrodes are inserted into the scalp and leads are run off to a central monitoring system. By this means all through labor a constant watch may be held over the fetal heart rate. This is obviously better than the use of the stethoscope every fifteen minutes or so. It does require the constant attention of a nurse to watch the screens. She cannot be doing other chores about the delivery suite. It was estimated that an EKG monitoring system for four labor rooms could be arranged for $40,000. Add to this the upkeep and hiring of nurses for round-the-clock attention and you have another expensive set-up.

These methods are of course largely experimental and used in a few large centers. They are expensive. One discussant said that on his service they used all four methods. He felt that they are especially suited for use in "high risk pregnancies", that they will prevent unnecessary sections for fetal distress. I should think the opposite; in our hospital few sections are done for that indication.

And what is a "high risk pregnancy"? If these methods become established ought they to be used only in pregnancies complicated by diabetes, hypertension, postmaturity, Rh problems, and so on? In the last hundred deliveries we have attended here in Fredericksburg there were six "high risk" pregnancies according to traditional standards. By means of the usual obstetrical-art-care all had a satisfactory outcome. But there was less good fortune in two other pregnancies in which the mothers were perfectly normal. One gravida arrived in labor five days after her last prenatal check-up when everything seemed normal. On admission she stated that she had not felt the baby move for two days. There were no fetal heart tones. She promptly delivered a macerated stillborn. The only abnormality found was a quite tight true knot in the cord. Would daily estriols have saved this baby? The other gravida came in in active labor. Fetal heart rate remained good. At amniotomy much meconium appeared. She delivered spontaneously in less than half an hour. A very short cord was found tight across the shoulder, tight to the point of ischemia. The baby seemed well at first, but later showed evidence of having aspirated meconium during birth and died of a meconium pneumonitis four hours later.

From these cases the inference is obvious that you cannot always predict the high risk fetus. Thus, monitoring methods would have to be employed in all to reduce the perinatal mortality. This might mean performing urinary estriols on all registered patients, and EKG's or microchemistry on all "drop-ins" who have had no prenatal care. In our hospital there are nearly 150 of these a year.

If we total up the cost of all this we run into some pretty figures. Routine urinary estriols in late pregnancy could run to $150,000 per thousand gravidae. A fetal EKG monitoring system might cost $30,000 a year to operate and maintain. If one or more of these fetal monitoring systems is eventually proven to be rewarding we are going to be faced with another escalation of costs both in money and in the time of already scarce ancillary personnel. What happens if in a simple uncomplicated maternity case the costs for hospital and laboratory triple? Who will pay? One discussant glibly said that the "government" would be wise to support these programs in both community and teaching hospitals because the prevention of even one retarded child would save perhaps a hundred thousand dollars. To many of us this reaction was disturbing. All the future great advances in medicine are going to be expensive. Witness the cost of a single heart transplant. Who is really studying the economic impact of these advances? The voters are going to vote the government into the situation, for good or, as we think, bad. It is in this not too distant escalation of costs that the seed of socialized medicine lies.

Gordon W. Jones, M.D.

Massachusetts, Politics and Medicine

WE BENIGHTED SOULS, who live below the Mason and Dixon line, have been led to believe by our Boston friends that Massachusetts in general and Boston in particular have a monopoly on all that is good and scientific in medicine. We, in the hinterland, have been told that we cannot hope to aspire to such rarefied heights. The writer was reminded of this during a vacation in New England during the latter part of July and a vague uneasiness arose as to whether there may be possible exceptions to this rule.

The readers may recall a young woman was killed recently in Massachusetts under unusual circumstances. The question was asked by many persons, both lay and medical, as to why an autopsy was not done. The writer, too, was unable to learn just why a postmortem was not carried out. One Bostonian remarked that "the clamps were on tight".

Several days later an explanation appeared in an Associated Press release. The medical examiner of Edgartown, Massachusetts, stated "that no autopsy was performed because there was no apparent need for one." He said further "I felt fully satisfied with my diagnosis of accidental drowning, was fully satisfied that I had notified the district attorney's office of the fatality, fully satisfied that no autopsy was authorized as necessary. . . . I would handle the same case in the same way another time under similar circumstances." In a statement issued subsequently he said "that the decision was made not to perform an autopsy based on the facts then at hand." The news item further stated the medical examiner said "an autopsy is performed primarily to establish the cause of death where such cause is not obvious."

This prompted the writer to determine where in the Virginia Code and the Massachusetts Law regarding medical examiners differed. On the surface there does not appear to be a great deal of difference. Both Commonwealths require investigation of violent or unnatural or suspicious deaths and the words do not vary materially. Both Virginia and Massachusetts give the examiners authority to perform autopsies if the circumstances warrant.

The chief differences are found in the method of appointing these physicians and the chain of command that follows. But what a world of difference these make. The medical examiners in Virginia are appointed by the Chief Medical Examiner and they, in turn, report to him about any matter arising in their jurisdiction. In Massachusetts each medical examiner is appointed by the Governor. There is no chief examiner in the Bay State and each physician is, to a degree, on his own, and he reports directly to the Commonwealth Attorney in his district.

By the very nature of things the Massachusetts' set-up encourages politics in these appointments and discourages career men from entering this particular field of medicine. This, in turn, leads to the inescapable fact which long has been suspected, that not only is Virginia politics on a higher plane but the Old Dominion also is far ahead in the field of forensic medicine.

H.J.W.

News . . . .

Calendar of Events

American College of Chest Physicians, Potomac Chapter—Annual Meeting—Program will be on Occupational Lung Diseases—Ingleside Inn—Staunton—October 4, 1969.

National Conference on Physicians and Schools—Pick-Congress Hotel—Chicago—October 8-11, 1969.

Annual Seminar—Sponsored by Bluefield Sanitarium, Stevens Clinic and Clinch Valley Clinic—Bluefield Country Club—October 16, 1969.

The Medical Society of Virginia—Annual Meeting—Virginia Beach—October 16-19, 1969.

American Academy of Pediatrics—Annual Meeting—Palmer House—Chicago—October 18-23, 1969.

American Cancer Society, Virginia Division—Annual Meeting—Hotel Jefferson—Richmond—October 22-23, 1969.

McGuire Lecture Series—Program on Dermatology—Medical College of Virginia—Richmond—October 23-24, 1969.

Conference on Children with Learning Disabilities—Sponsored by Virginia Council on Health and Medical Care—Conference Center—Williamsburg—November 9-11, 1969.

Southern Medical Association—Annual Meeting—Atlanta, Georgia—November 10-13, 1969.

Virginia Hospital Association—Annual Meeting—Marriott Twin Bridges Motor Hotel—Arlington—November 13, 14, 1969.

Southern Society for Pediatric Research—Annual Meeting—Medical College of Virginia—Richmond—November 21-22, 1969.

American Medical Association—Clinical Convention—Denver—November 30-December 3, 1969.

Ware Residence Program—Medical College of Virginia—Richmond—December 10-12, 1969.

Law Institute on Hospitals and Medicine—Medical College of Virginia—Richmond—February 6, 1970.

Stoneburner Lecture Series—Medical College of Virginia—Richmond—February 19-20, 1970.

Annual Postgraduate Program—Sponsored by Medical Staff of Roanoke Memorial Hospital—Roanoke—March 19-20, 1970.

* * * * * *

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following members were received into The Medical Society of Virginia during the month of July:

David L. Bland, Jr., M.D., Newport News
Robert Rogers Chaplin, Jr., M.D., Richmond
Alan Paul Cohen, M.D., Hampton
John Edward Esnard, M.D., Vienna
Robert William Gebhardt, M.D., Winchester
William Elish Holland, M.D., Norfolk
James Albert Krisher, M.D., Staunton
Patrick J. Leary, M.D., Falls Church
Abdin Reina, M.D., Norfolk
Harry Hudnall Ware, III, M.D., Richmond
James Wilson, M.D., Hampton

Dr. White Retires.

After some 42 years of practice, Dr. Mathew James Walter White, Jr., Luray, has retired. He was a high school dropout and tried to join the Navy in World War I but was rejected because he was too small. After several trips aboard steamers to Panama and Canal Zone, he was accepted in the Navy because he had had "sea experience". After his release from the Navy, Dr. White completed his high school education, went to college and received his medical degree from the University of Virginia in 1927. In 1929, Dr. and Mrs. White left for the Philippines where they did missionary work until 1935. While there he began a collection of both primitive and modern Philippine artifacts that grew into one of the most complete of its kind and Dr. White recently presented the collection to the Norfolk Museum of Arts and Sciences. After serving on a special project for upgrading medical facilities for coal miners and as head of a hospital in St. Croix, Virgin Islands, Dr. White began his practice in Luray in 1939. He started the first operating room in Page County and was one of the prime movers behind the construction of the new Page Memorial Hospital which opened in 1959. He returned to active service with the Navy during World War II and after his discharge served another year with Church World Services in the Philippines, returning to Luray in 1946. Dr. and Mrs. White are moving to Punta Gorda, Florida.

Dr. Stokes Retires to New Field.

Dr. Hugh G. Stokes, Williamsburg, has retired as "the old fashioned type of family doctor" and has entered a three-year term of residency in psychiatry at Eastern State Hospital. He has been in practice in Williamsburg for twenty-three years and has seen the city change from a small town to a populous mecca for tourists. When he began his practice there were only a few physicians and no hospital open.

St. Albans Dedicates Services Addition.

St. Albans Psychiatric Hospital, Radford, opened a new $750,000.00 services addition with a formal dedication on July 11th. The new addition provides offices and waiting room space, consulting rooms, a 200 seat dining room, new kitchen, a two lane automatic bowling alley and a floor adding 12 beds for patient use.

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Wanted

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Generalist or Internist

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(*Continued from page 520*)

It was noticed immediately that the abdominal contents were bile stained. Exploration of the stomach, small and large bowel failed to disclose any perforation. We thought that the perforation could have been either pinpoint in size or in the posterior duodenum and had sealed itself. The abdomen was closed in the routine manner. The postoperative course was uncomplicated and the child was discharged six days later. At the present time the infant is eight months old and doing well.

Comments

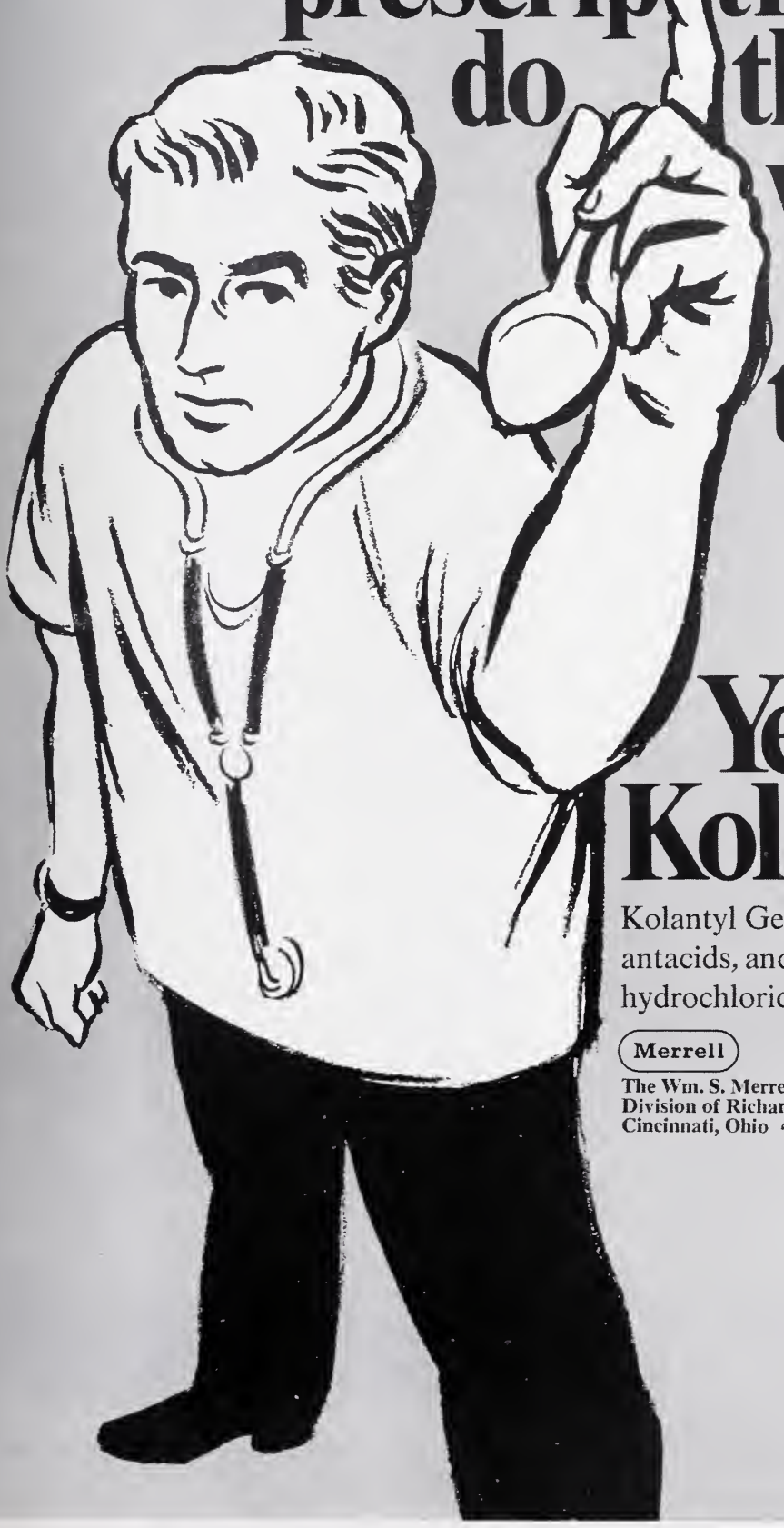
1. Pneumoperitoneum in the newborn is a rare occurrence.
2. If unrecognized it can be in the vast majority of cases fatal.
3. Occasionally no etiology can be found despite successful exploration or autopsy.

BIBLIOGRAPHY

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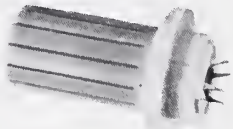
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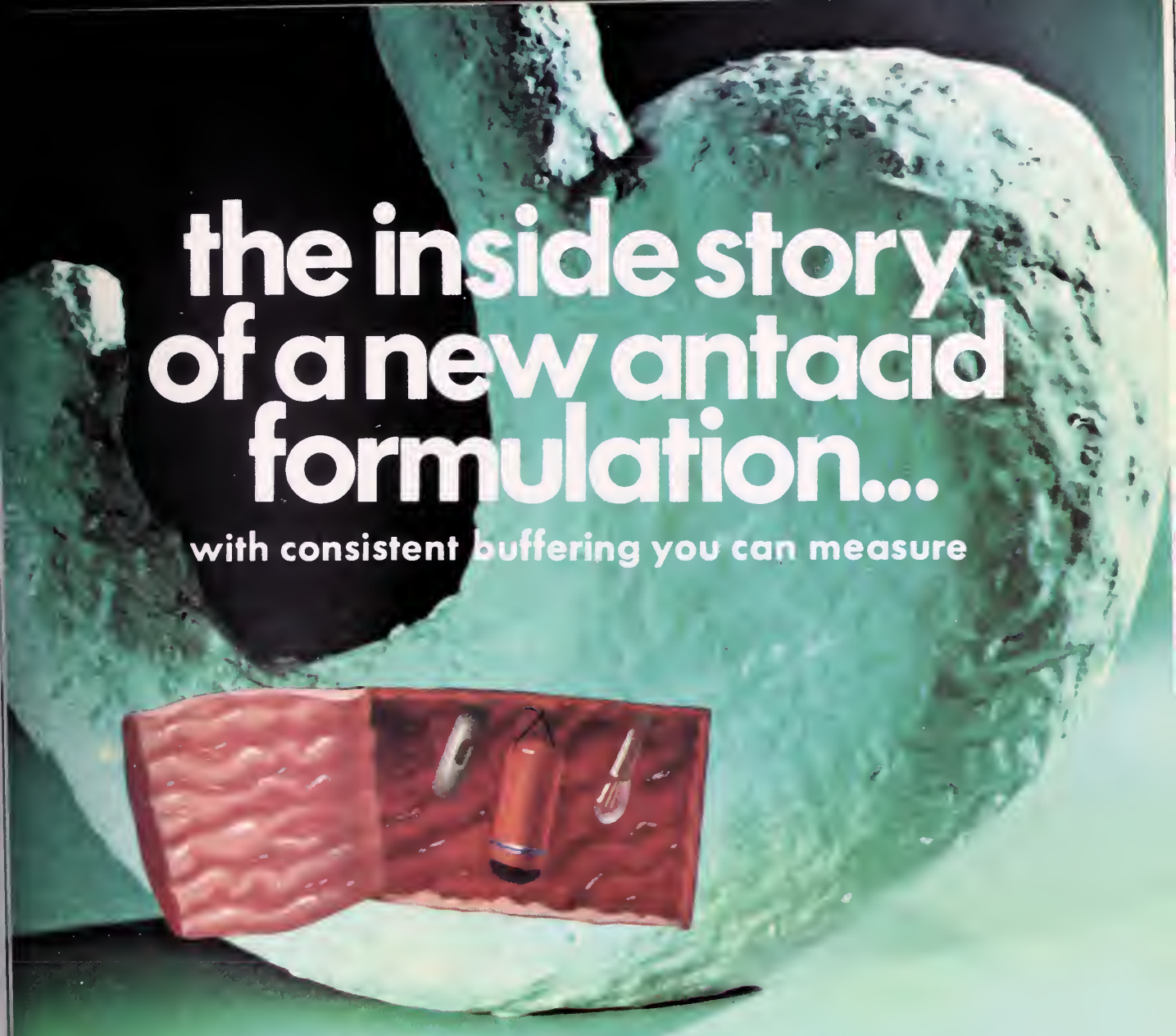
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Adverse Reactions: *Central Nervous System*—Drowsiness, especially with large doses, early in treatment; infrequently, pseudoparkinsonism and other extrapyramidal symptoms; nocturnal confusion, hyperactivity, lethargy, psychotic reactions, restlessness, and headache. *Autonomic Nervous System*—Dryness of mouth, blurred vision, constipation, nausea, vomiting, diarrhea, nasal stuffiness, and pallor. *Endocrine System*—Galactorrhea, breast engorgement, amenorrhea, inhibition of ejaculation, and peripheral edema. *Skin*—Dermatitis and skin eruptions of the urticarial type, photosensitivity. *Cardiovascular System*—Changes in the terminal portion of the electrocardiogram have been observed in some patients receiving the phenothiazine tranquilizers, including Mellaril (thioridazine). While there is no evidence at present that these changes are in any way precursors of any significant disturbance of cardiac rhythm, several sudden and unexpected deaths apparently due to cardiac arrest have occurred in patients previously showing electrocardiographic changes. The use of periodic electrocardiograms has been proposed but would appear to be of questionable value as a predictive device. *Other*—A single case described as parotid swelling.

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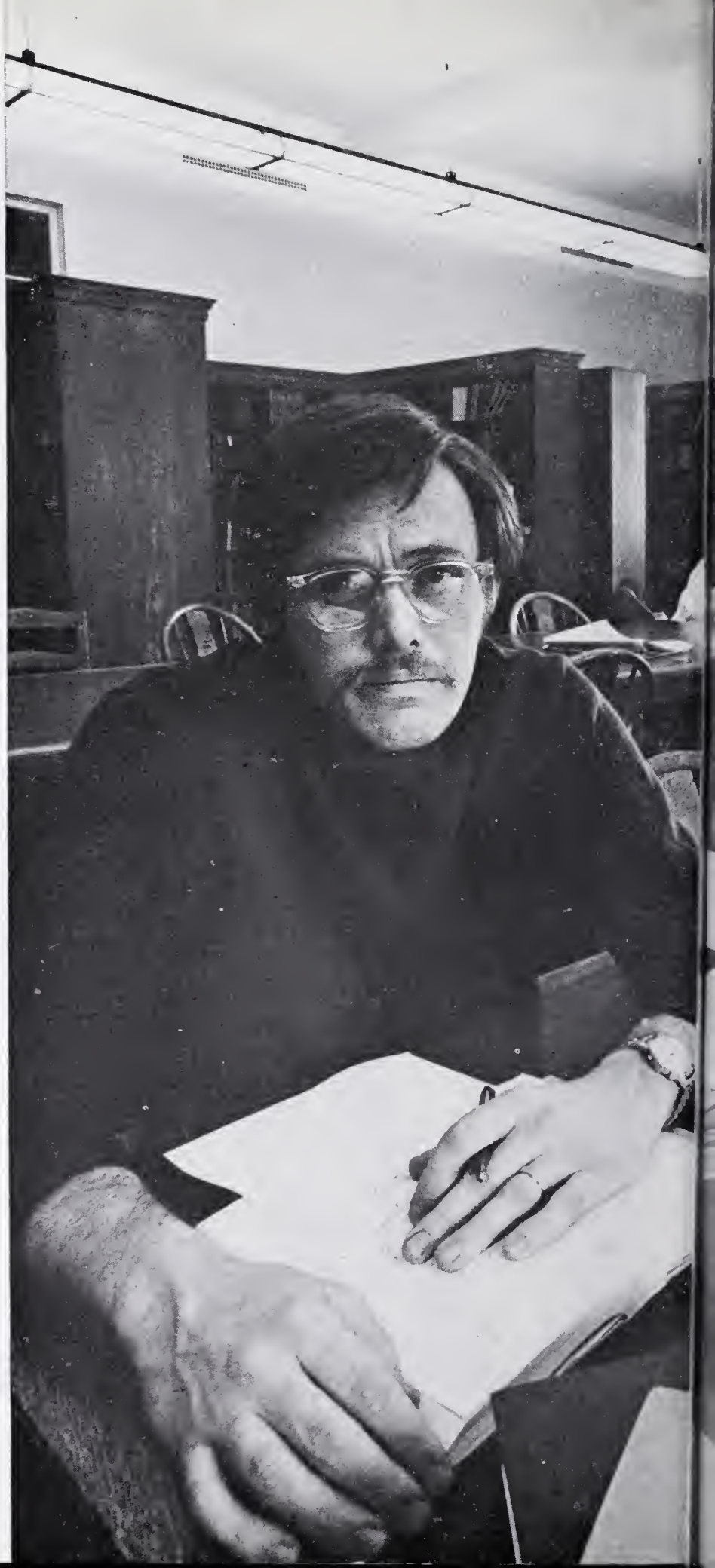
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Valium is generally well tolerated. In proper maintenance dosage it seldom dulls the senses or interferes with functioning. Side effects most commonly reported have been drowsiness, fatigue and ataxia.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

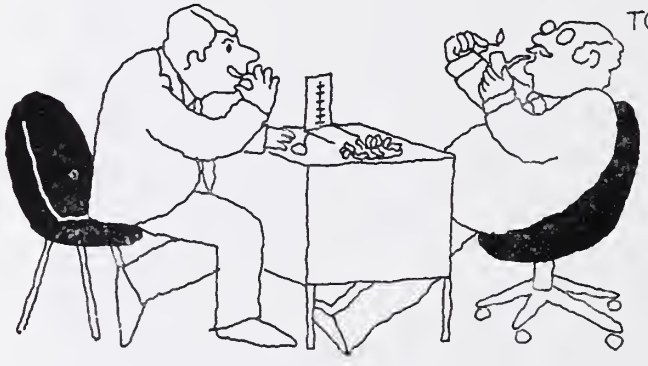
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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to help relieve psychic tension
and its somatic symptoms

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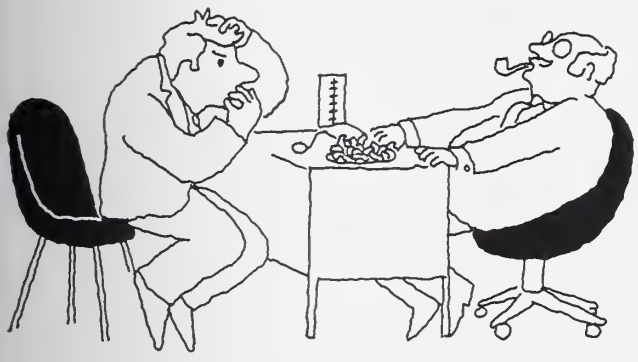


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Regroton®: chlorthalidone 50 mg., reserpine U.S.P. 0.25 mg. *Indications:* Hypertension. *Contraindications:* History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases. *Warning:* With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small-bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue coated potassium-containing formulations immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur. Discontinue one week before electroshock therapy, and if depression or peptic ulcer occurs. *Use in pregnancy:* Because chlorthalidone may cross the placental barrier and appear in cord blood and thiazides may appear in breast milk, this drug should be used with care in pregnant patients and nursing mothers. When used in women of childbearing age, the potential benefits of the drug should be weighed against the possible hazards to the fetus. Use of chlorthalidone may result in fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers. *Precautions:* Antihypertensive therapy with this drug should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. To avoid hypotension during surgery, discontinue therapy with this agent two weeks prior to elective surgical procedures. In emergency surgery, use, if needed, anticholinergic or adrenergic drugs or other supportive measures as indicated. Because of the possibility of progression of renal damage, periodic kidney function tests are indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated. Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, the drug should be discontinued and potassium supplements given, provided the patient does not have marked oliguria. Take particular care in cirrhosis or severe ischemic heart disease and in patients receiving

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and allay anxiety in hypertension

corticosteroids, ACTH, or digitalis. Severe salt restriction is not recommended. Use cautiously in patients with ulcerative colitis or gallstones (biliary colic may be precipitated). Bronchial asthma may occur in susceptible patients. *Adverse Reactions:* The drug is generally well tolerated. The most frequent side effects are nausea, gastric irritation, vomiting, diarrhea, constipation, muscle cramps, headache, dizziness and acute gout. Other potential side effects include angina pectoris, anxiety, depression, bradycardia and ectopic cardiac rhythms (especially when used with digitalis), drowsiness, dull sensorium, hyperglycemia and glycosuria, hyperuricemia, lassitude, restlessness, transient myopia, impotence or dysuria, orthostatic hypotension which may be potentiated when chlorthalidone is combined with alcohol, barbiturates or narcotics, leukopenia, aplastic anemia, skin rashes, thrombocytopenia, agranulocytosis, nasal stuffiness, increased gastric secretions, nightmare, purpura, urticaria, ecchymosis, weakness, uveitis, optic atrophy and glaucoma, and pruritus. Eruptions and/or flushing of the skin, a reversible paralysis agitans-like syndrome, blurred vision, conjunctival injection, increased susceptibility to colds, dyspnea, weight gain, decreased libido, dryness of the mouth, deafness, anorexia, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Jaundice, xanthopsia, paresthesia, photosensitization and necrotizing angiitis are possible. *Average Dosage:* One tablet daily with breakfast. *Availability:* Pink, single-scored tablets in bottles of 100 and 1000. (B)46-600-C

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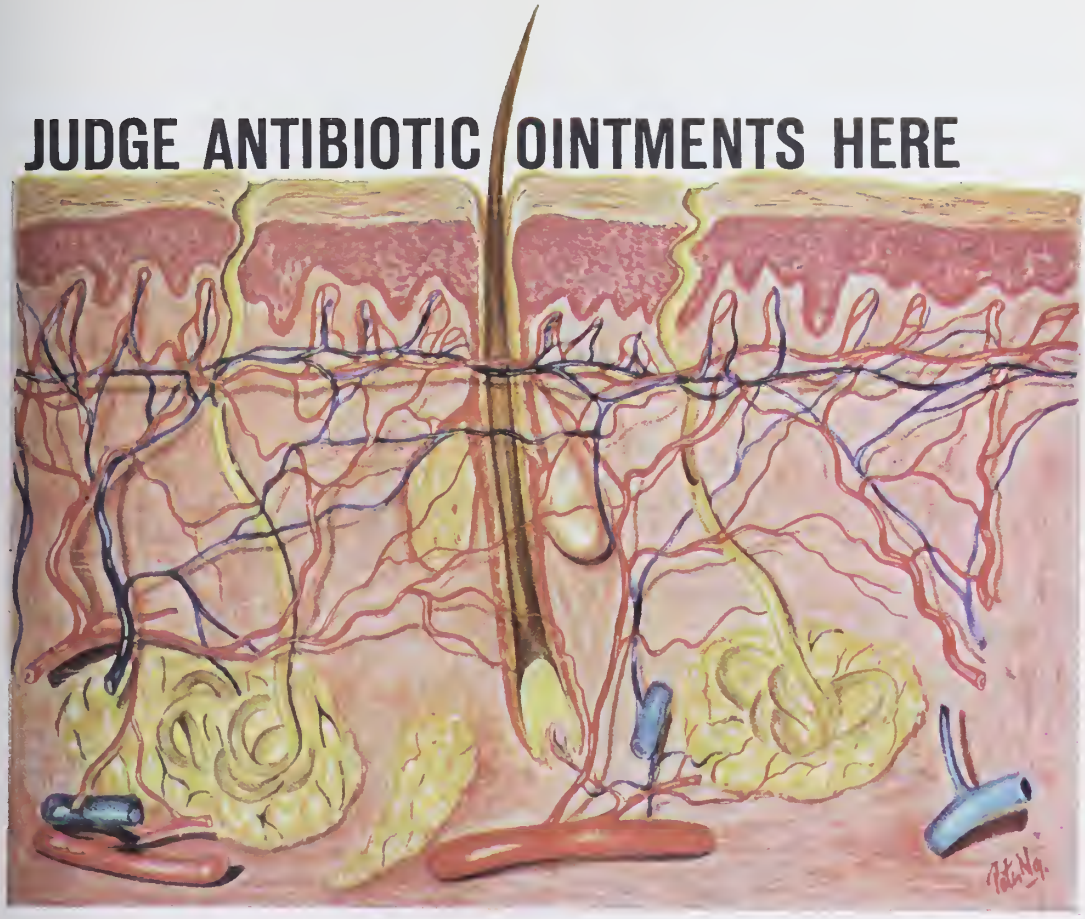
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BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.



Clues to PVD

The heavy smoker with vasospasm

He may be comparatively young or approaching middle age. Typically, he is a heavy cigarette smoker—a pack or more a day for a number of years. Whether smoking is a causative or an important exacerbating factor in peripheral vascular disease is still under discussion. But the vasoconstrictive effects of nicotine are firmly supported by a substantial body of laboratory and clinical evidence, and the close association is now generally accepted.

Thus, a history of heavy smoking coupled with vasospasm may serve as warning signals to the physician. When a diagnosis is established, therapeutic measures are directed toward increasing the local circulation, and appropriate management of the patient's general medical needs should be instituted. These include the important safeguards of keeping warm and refraining from smoking.

Before prescribing Roniacol Timespan (nicotinyl alcohol tartrate), please consult complete product information, a summary of which follows.

Indications: Conditions associated with deficient circulation; *e.g.*, peripheral vascular disease, vascular spasm, varicose ulcers, decubital ulcers, chilblains, Meniere's syndrome and vertigo.

Caution: Roche Laboratories endorses caution in the administration of any therapeutic agent to pregnant patients.

Side Effects: Transient flushing, gastric disturbances, minor skin rashes and allergies may occur in some patients, seldom requiring discontinuation of the drug.

Dosage: 1 or 2 Timespan Tablets morning and night.

How Supplied: Timespan Tablets—150 mg nicotinyl alcohol in the form of the tartrate salt—bottles of 50.

ROCHE
Roche
LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Important in total management of peripheral vascular disease, vascular spasm or chilblains

Roniacol® Timespan®

(nicotinyl alcohol tartrate)

for relief of ischemic symptoms

Convenience of b.i.d. dosage—sustained-release Timespan Tablets usually provide prolonged relief of ischemic symptoms with two doses daily.

Smoothness of onset—the action of Roniacol (nicotinyl alcohol) is smooth and gradual in onset, rarely causing severe flushing.

Selectivity of action—relaxes the musculature of peripheral blood vessels.

High degree of safety—side effects seldom require discontinuation of therapy.



Preludin®
phenmetrazine hydrochloride

Preludin is indicated only as an anorexigenic agent in the treatment of obesity. It may be used in simple obesity and in obesity complicated by diabetes, moderate hypertension (see Precautions), or pregnancy (see Warning).

Contraindications: Severe coronary artery disease, hyperthyroidism, severe hypertension, nervous instability, and agitated prepsychotic states. Do not use with other CNS stimulants, including MAO inhibitors.

Warning: Do not use during the first trimester of pregnancy unless potential benefits outweigh possible risks. There have been clinical reports of congenital malformation, but causal relationship has not been proved. Animal teratogenic studies have been inconclusive.

Precautions: Use with caution in moderate hypertension and cardiac decompensation. Cases involving abuse of or dependence on phenmetrazine hydrochloride have been reported. In general, these cases were characterized by excessive consumption of the drug for its central stimulant effect and have resulted in a psychotic illness manifested by restlessness, mood or behavior changes, hallucinations or delusions. Do not exceed recommended dosage.

Adverse Reactions: Dryness or unpleasant taste in the mouth, urticaria, overstimulation, insomnia, urinary frequency or nocturia, dizziness, nausea, or headache.

Dosage: One 25 mg. tablet b.i.d. or t.i.d. Or one 75 mg. Endurets tablet a day, taken by midmorning.

Availability: Pink, square, scored tablets of 25 mg. for b.i.d. or t.i.d. administration, in bottles of 100 and 1000.

Pink, round Endurets® prolonged-action tablets of 75 mg. for once-a-day administration, in bottles of 100 and 1000. (B)R3-46-560-B

Under license from
Boehringer
Ingelheim G.m.b.H.

For complete details, please see full prescribing information.

Geigy Pharmaceuticals
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Ardsley, New York 10502







They run a good chance of losing weight.

Exercise and Preludin run together in helping patients to lose weight.

Preludin often puts a curb on appetite and promotes a sense of well-being. By boosting a dieter's spirit, Preludin may help patients get the exercise you may prescribe.

One Endurets tablet taken between breakfast and midmorning usually provides daylong and early-evening suppression of appetite.

A few patients may experience overstimulation or insomnia. For a brief summary of all adverse reactions, precautions, warning and contraindications, please see the adjoining page.

Preludin® phenmetrazine hydrochloride

Endurets® prolonged-action tablets

Geigy



from the discord of anxiety...



to emotional harmony

with the aid of antianxiety

Librium®
(chlordiazepoxide HCl)

5-mg, 10-mg
and 25-mg capsules

In an age of swift change and challenge, susceptible individuals may experience varying degrees of excessive anxiety. The resulting emotional stress may precipitate significant functional disorders or complicate existing organic disease. In properly individualized maintenance dosage, Librium (chlordiazepoxide HCl) quickly helps relieve anxiety and apprehension, provides useful adjunctive therapy in psychophysiologic disorders—yet seldom impairs mental acuity or ability to function. Librium has demonstrated a wide margin of safety in short- and long-term therapy.

Also available:

Libritabs®
(chlordiazepoxide)

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Indicated when anxiety, tension and apprehension are significant components of the clinical profile.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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MEDICAL MONTHLY



OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

VIRGINIA REGIONAL MEDICAL PROGRAM



Dear Doctor, You made me what I am today— a whole lot slimmer!

TEPANIL—the right start in support of the weight-control program *you* recommend. It reduces the appetite. Doesn't kill it. Weight loss is significant—gradual—yet there is a relatively low incidence of CNS stimulation. Because TEPANIL works on the appetite, not on the "nerves."

Contraindications: Concurrently with MAO inhibitors, in potients hypersensitive to this drug; in emotionolly unstoble potients susceptible to drug obuse.

Warning: Although generolly sofer thon the omphetomines, use with greot coution in potients with severe hypertension or severe cardiovosculor diseose. Do not use during first trimester of pregnoncy unless potentiol benefits outweigh potentiol risks.

Adverse Reactions: Rorely severe enough to require discontinuotion of therapy, unpleosont symptoms with diethylpropion hydrochloride hove been reported to occur in relotively low incidence.

As is chorocteristic of sympothomimetic ogents, it may occosionolly couse *CNS effects* such os insomnio, nervousness, dizziness, onxiety, ond jitteriness. In controst, CNS depression hos been reported. In o few epileptics on increose in convulsive episodes hos been reported.

Sympothomimetic *cordiovosculor effects* reported include ones such os tachycordio, precordiol poin, orrhythmio, polpitotion, ond increased blood pressure. One published report described T-wove chonges in the ECG of o heolthy young mole after ingestion of diethylpropion hydrochloride; this wos on isoloted experience, which has not been reported by others.

Allergic phenomeno reported include such conditions os rosh, urticorio, ecchymosis, ond erythemo.

Gostrointestinol effects such os diorrhea, constipotion, nouseo, vomiting, ond obdominol discomfort hove been reported.

Specific reports on the hemotopoietic system include two eoch of bone morrow depression, ogronulocytosis, ond leukopenio.

A voriety of miscellaneous odverse reactions hove been reported by physicions. These include complaints such os dry mouth, heodoche, dyspneo, menstruol upset, hoir loss, muscle pain, decreosed libido, dysurio, ond polyuria.

Convenience of two dosage forms: TEPANIL Ten-tob toblets: One 75 mg. toblet daily, swallowed whole, in midmorning (10 o.m.); TEPANIL: One 25 mg. toblet three times doily, one hour before meols. If desired, on odditionol toblet moy be given in midevening to overcome night hunger. Use in children under 12 yeors of oge is not recommended.

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(continuous release form)

(diethylpropion hydrochloride)

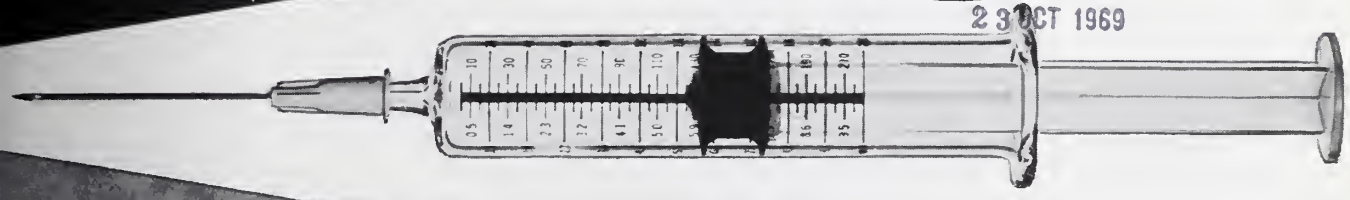
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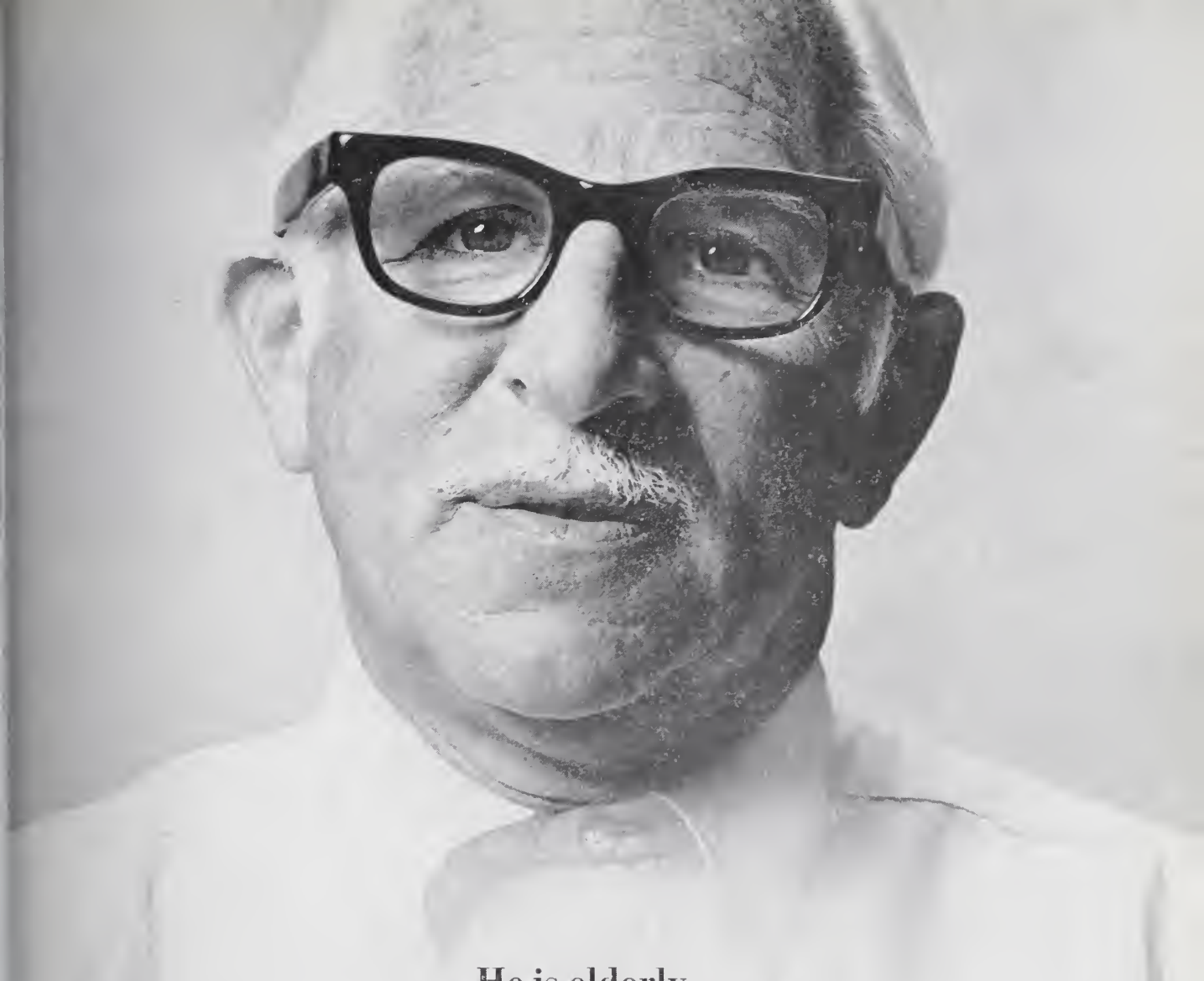
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He is elderly, he is on corticosteroids, when he needs an antibiotic he may be a candidate for

DECLOSTATIN® 300

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b.i.d.

guard susceptible patients against intestinal monilial overgrowth during broad-spectrum therapy—the protection of ystatin is combined with demethylchlortetracycline in ECLOSTATIN.

For your susceptible candidates, prescribe DECLOSTATIN the broad-spectrum therapy that prevents monilial ergrowth.

ntraindication: History of hypersensitivity to demethylchlortetracyine or nystatin.

arning: In renal impairment, usual doses may lead to excessive accumution and liver toxicity. Under such conditions, lower than usual doses e indicated, and, if therapy is prolonged, serum level determinations ay be advisable. A photodynamic reaction to natural or artificial sunght has been observed. Small amounts of drug and short exposure may oduce an exaggerated sunburn reaction which may range from erytema to severe skin manifestations. In a smaller proportion, photolergic reactions have been reported. Patients should avoid direct posure to sunlight and discontinue drug at the first evidence of skin scomfort. Necessary subsequent courses of treatment with tetracyines should be carefully observed.

recautions: Overgrowth of nonsusceptible organisms may occur. Consistant observation is essential. If new infections appear, appropriate measures should be taken.

In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

Lederle

LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York

Can one prescription do the work of two?



Yes, Kolantyl®

Kolantyl Gel/Wafers contain antacids, and Bentyl® (dicyclomine hydrochloride) too.

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A palatable chloral hydrate syrup containing 10 grains in each teaspoonful.

J. and V.

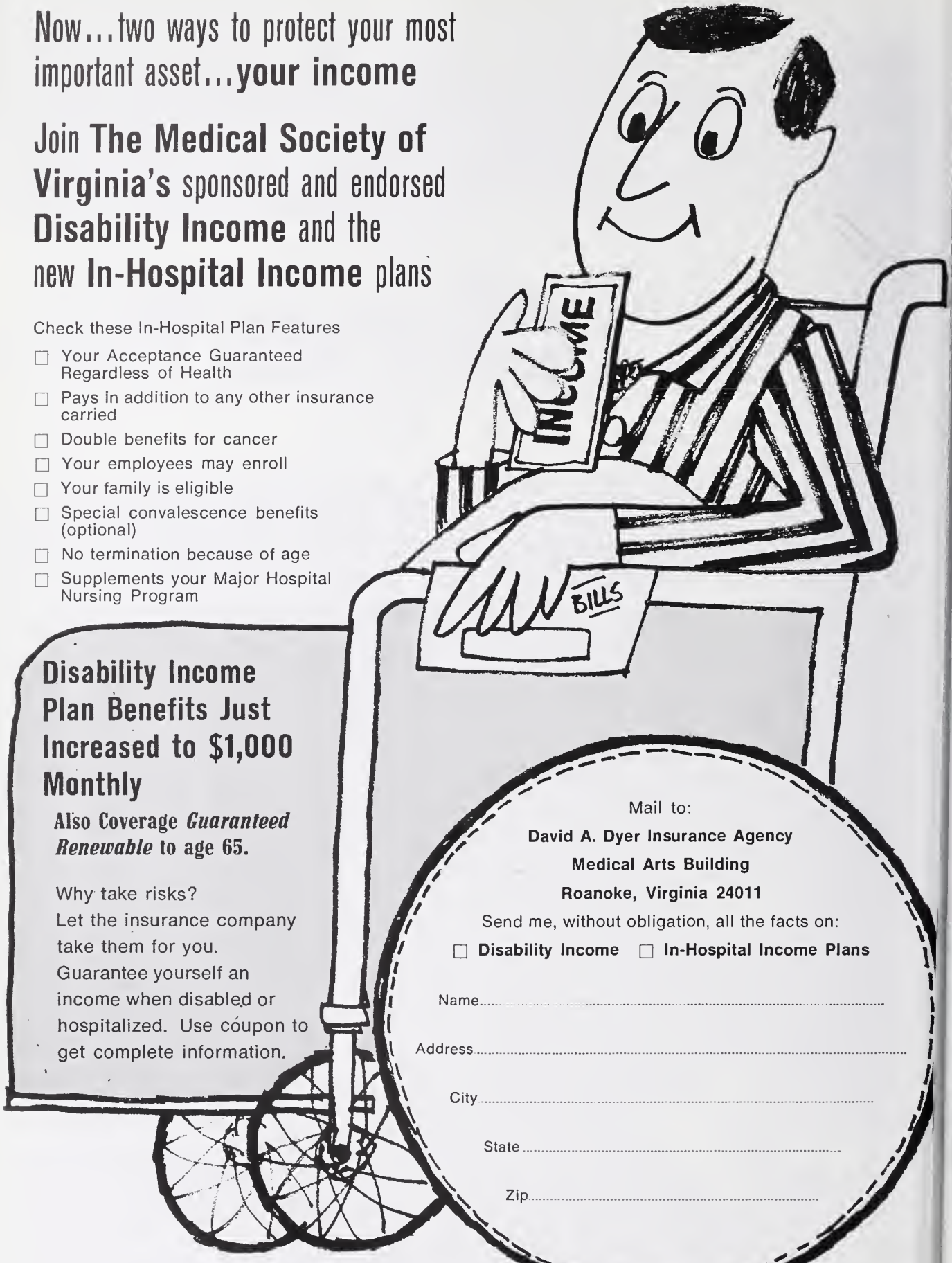
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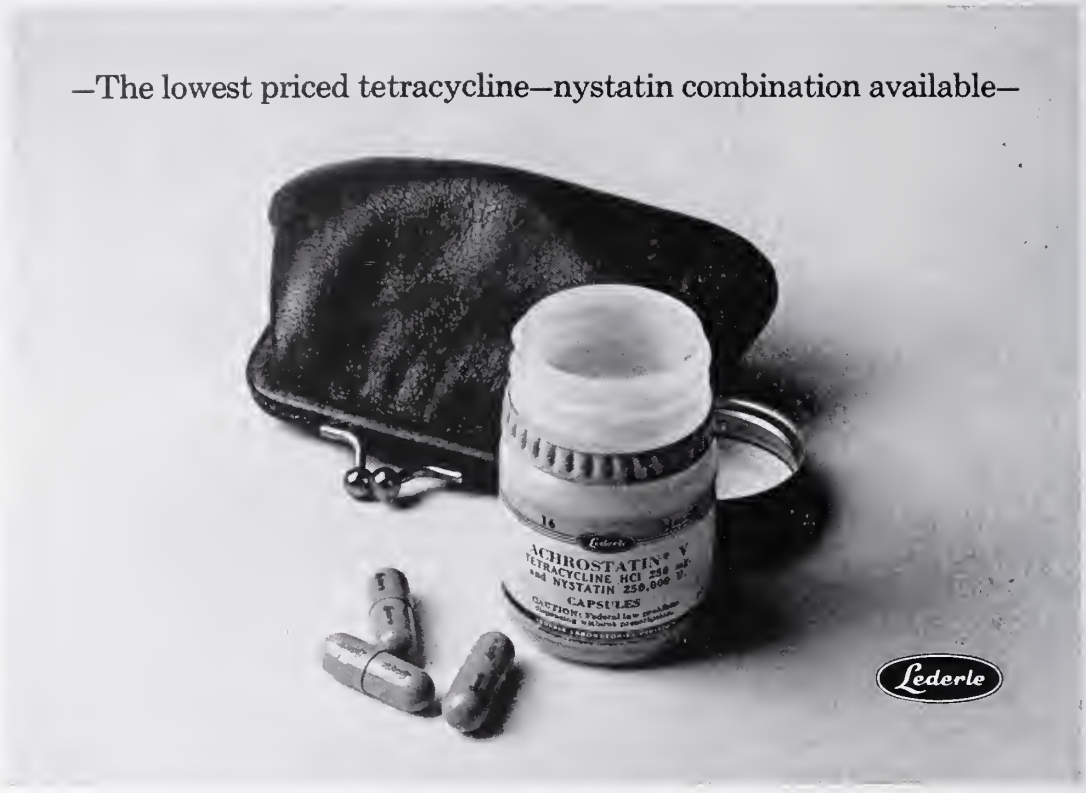
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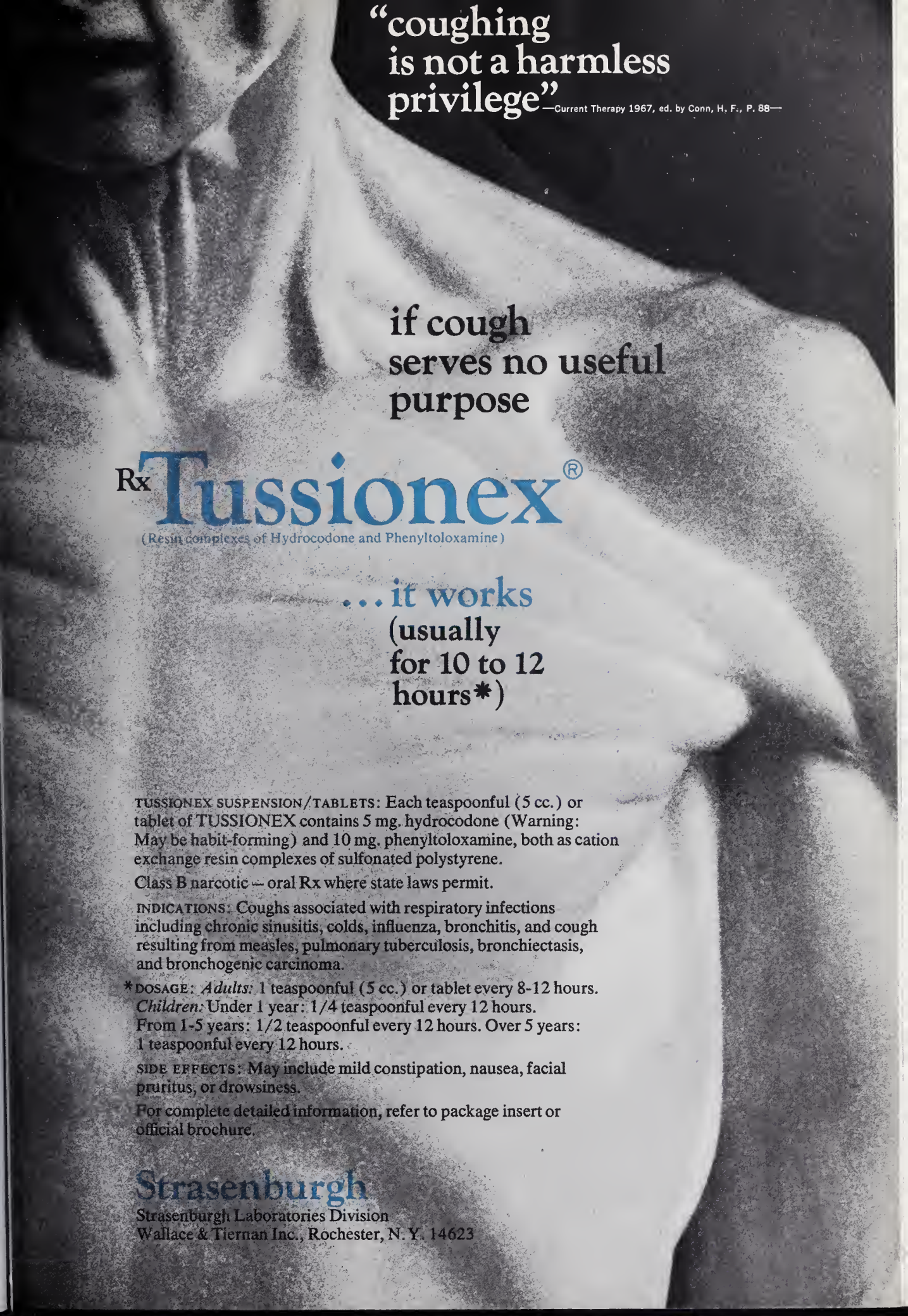
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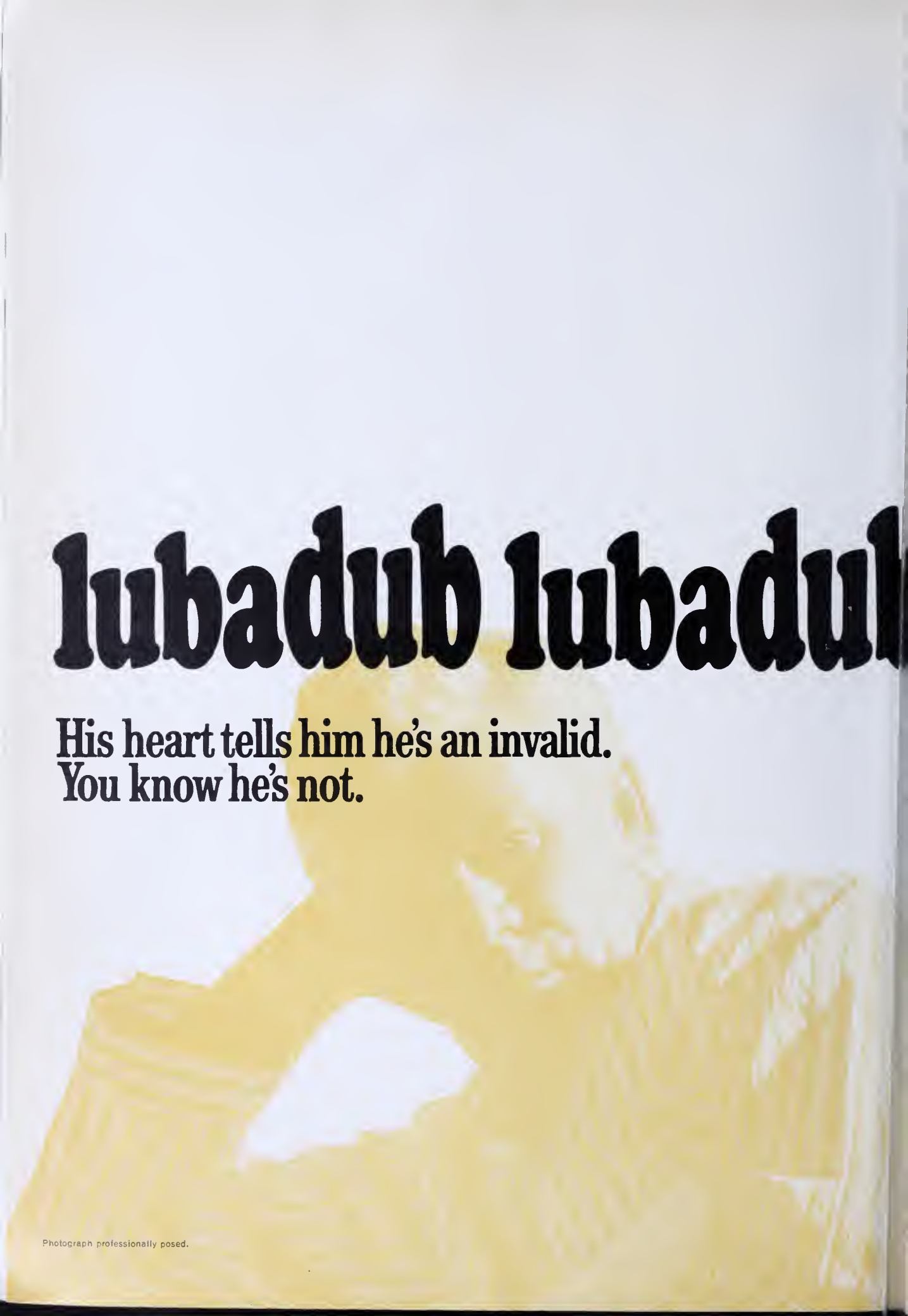
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"coughing is not a harmless privilege"—Current Therapy 1967, ed. by Conn, H. F., P. 88—
if cough serves no useful purpose
Rx Tussionex®
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...it works (usually for 10 to 12 hours*)
TUSSIONEX SUSPENSION/TABLETS: Each teaspoonful (5 cc.) or tablet of TUSSIONEX contains 5 mg. hydrocodone (Warning: May be habit-forming) and 10 mg. phenyltoloxamine, both as cation exchange resin complexes of sulfonated polystyrene.
Class B narcotic — oral Rx where state laws permit.
INDICATIONS: Coughs associated with respiratory infections including chronic sinusitis, colds, influenza, bronchitis, and cough resulting from measles, pulmonary tuberculosis, bronchiectasis, and bronchogenic carcinoma.
*DOSAGE: *Adults:* 1 teaspoonful (5 cc.) or tablet every 8-12 hours. *Children:* Under 1 year: 1/4 teaspoonful every 12 hours. From 1-5 years: 1/2 teaspoonful every 12 hours. Over 5 years: 1 teaspoonful every 12 hours.
SIDE EFFECTS: May include mild constipation, nausea, facial pruritus, or drowsiness.
For complete detailed information, refer to package insert or official brochure.
Strasenburgh
Strasenburgh Laboratories Division
Wallace & Tiernan Inc., Rochester, N.Y. 14623

lubadub lubadub

His heart tells him he's an invalid.
You know he's not.



Photograph professionally posed.

Contraindications: History of sensitivity to meprobamate.

Important Precautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use has been reported to result in dependence or habituation in susceptible persons, as alcoholics, ex-addicts, and other severe psychoneurotics. After prolonged excessive dosage, reduce dosage gradually to avoid possibly severe withdrawal reactions. Abrupt discontinuance of excessive doses has sometimes resulted in epileptiform seizures.

Warn patients of possible reduced alcohol tolerance, with resultant slowing of reaction time and impairment of judgment and coordination.

Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia usually transient, have been reported on continuous administration.

Meprobamate may sometimes precipitate grand mal attacks in patients susceptible to both grand and petit mal. Extremely large doses can produce rhythmic fast activity in the cortical pattern. Impairment of accommodation and visual acuity has been reported rarely. After excessive dosage for weeks or months, withdraw gradually (1 or 2 weeks) to avoid recurrence of pretreatment symptoms (insomnia, severe anxiety, anorexia). Abrupt discontinuance of excessive doses has sometimes resulted in vomiting, ataxia, tremors, muscle twitching and epileptiform seizures. Prescribe very cautiously and in small amounts for patients with suicidal tendencies. Suicidal attempts have resulted in coma, shock, vasomotor and respiratory collapse and anuria. Excessive doses have resulted in prompt sleep; reduction of blood pressure, pulse and respiratory rates to basal levels; and occasionally hyperventilation. Treat with immediate gastric lavage and appropriate symptomatic therapy. (CNS stimulants and pressor amines as indicated.) Doses above 2400 mg./day are not recommended.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. (All tablets also available in REDIPAK® [strip pack], Wyeth.) Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

Wyeth Laboratories Philadelphia, Pa.

ıbadubdub lubadı

Anxiety is expected in the cardiovascular patient. A little may even be desirable.

But when anxiety is exaggerated . . . when it interferes with sleep . . . when it aggravates cardiovascular symptoms, your help may be needed.

Naturally, you'll want to reassure the patient.

And perhaps prescribe Equanil (meprobamate) as adjunctive therapy. It helps relieve anxiety and tension specifically, yet gently.

Almost 15 years' use has shown that Equanil is usually well tolerated as well as effective. Side effects are generally limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

Equanil®
(meprobamate) Wyeth®



No place for beginners

Terramycin®
(oxytetracycline)

An infection of rapid onset requiring prompt attention. Teenage girl with chills, fever, abdominal pain, backache and nausea. Frequent and urgent urination with burning. On examination—tenderness over kidney. Blood count and urinalysis confirm the diagnosis: acute pyelonephritis. Treatment is initiated with Terramycin. Within a few days of follow-up therapy, the patient is markedly improved. The pretreatment urine culture shows a strain of *E. coli* highly susceptible to Terramycin.

Experience has shown that Terramycin offers special advantages in treating urinary tract infections when strains of causative bacteria are susceptible. Broad-spectrum coverage unaffected by penicillinase. Effective tissue levels to help reach foci of infection in renal parenchyma. High urine levels—excreted by kidney in *active* form.

With Terramycin, you have the assurance that comes with choosing an agent physicians have depended on for over 18 years. In difficult as well as routine cases, when tests reveal susceptible organisms, consider Terramycin. One of the world's most widely used broad-spectrums.

Contraindicated: In individuals hypersensitive to oxytetracycline.

Warnings: Reduce usual oral dosage and consider antibiotic serum level determinations in patients with impaired renal function.

Use of oxytetracycline during the last trimester of pregnancy, neonatal period and early childhood may cause discoloration of developing teeth. This effect occurs mostly during long-term use of the drug, but it has also been observed in usual short-treatment courses.

During treatment with tetracyclines, individuals susceptible to photodynamic reactions should avoid direct sunlight; if such reactions occur, discontinue therapy.

Note: With oxytetracycline, phototoxicity is unknown and photoallergy very rare.

Precautions: Use of broad-spectrum antibiotics occasionally may result in overgrowth of nonsusceptible organisms. Where such infections occur, discontinue oxytetracycline and institute specific therapy. Increased intracranial pressure in infants is a possibility. Symptoms disappear upon discontinuation of therapy.

Adverse Reactions: Nausea, diarrhea, glossitis, stomatitis, proctitis, vaginitis and dermatitis, as well as reactions of an allergic nature, may occur but are rare.

Supply:* Terramycin Capsules: oxytetracycline HCl, 250 mg. and 125 mg. Terramycin Syrup: calcium oxytetracycline, 125 mg. per 5 cc. Terramycin Pediatric Drops: calcium oxytetracycline, 100 mg. per cc.

*All potencies listed are in terms of the standard, oxytetracycline.

More detailed professional information available on request.



Terramycin®
(oxytetracycline)

Pfizer LABORATORIES DIVISION
New York, N Y. 10017



Photo professionally posed.

No injection after all!

This penicillin produces high, fast levels—orally.

Pen•Vee® K is usually so rapidly and completely absorbed that therapeutic penicillin levels are attained within 15 to 30 minutes. Thus it can often obviate the need for penicillin injections. The higher serum levels produced generally last longer than with those of oral penicillin G.

Indications: Infections susceptible to oral penicillin G: prophylaxis and treatment of streptococcal infections; treatment of pneumococcal, gonococcal, and susceptible staphylococcal infections; prophylaxis of rheumatic fever in patients with a previous history of the disease.
Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.
Warnings: Acute anaphylaxis (may prove fatal unless promptly controlled) is rare but more frequent in patients with previous penicillin sensitivity, bronchial asthma or other allergies. Resuscitative (epinephrine, aminophylline, pressor amines) and supportive (antihistamines, methylprednisolone sodium succinate) drugs should be readily available. Other rare hypersensitivity reactions include nephropathy, hemolytic anemia, leucopenia and thrombocytopenia. In suspected hypersensitivity, evaluation of renal and hematopoietic systems is recommended.
Precautions: In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.
Adverse Reactions: (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").
Composition: Tablets—125 mg. (200,000 units), 250 mg. (400,000 units), 500 mg. (800,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

Wyeth Laboratories Philadelphia, Pa.

ORAL **PEN•VEE® K**

(potassium phenoxymethyl penicillin) Wyeth®

fast start on a short therapeutic course



Sterazolidin®

50 mg. phenylbutazone
1.25 mg. prednisone
100 mg. dried aluminum hydroxide gel
150 mg. magnesium trisilicate

Prompt anti-inflammatory action for...
relieving pain and stiffness
reducing tenderness and swelling
restoring joint movement
in bursitis, synovitis, tenosynovitis
and acute fibrositis.

Total treatment time: 7 days
Usual dosage: 2 capsules t.i.d.

Sterazolidin is valuable in the treatment of acute rheumatic conditions so often refractory to routine therapy. However, it is a potent drug, not a simple analgesic. Therefore, Sterazolidin should never be administered casually. For complete details on dosage, adverse reactions, contraindications and precautions, please see the following two pages.

Sterazolidin®

Each capsule contains:

Butazolidin®, brand of phenylbutazone	**50 mg.**
prednisone	**1.25 mg.**
dried aluminum hydroxide gel	**100 mg.**
magnesium trisilicate	**150 mg.**

Antiarthritic
Anti-inflammatory

Capsules

Important Note Butazolidin, brand of phenylbutazone, and prednisone, the active ingredients of Sterazolidin, are both potent drugs; the pharmacologic action of each should be borne in mind when Sterazolidin is prescribed. Sterazolidin combines anti-inflammatory, analgesic, antipyretic, and antiallergic properties and cannot be considered a simple analgesic and should never be administered casually. The usual warnings, precautions and contraindications associated with Butazolidin, brand of phenylbutazone, therapy and steroids apply to Sterazolidin.

Indications: *Chronic treatment of:* rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis; and also treatment of acute rheumatic conditions such as bursitis, synovitis, tenosynovitis, various forms of acute fibrositis, and acute gouty arthritis.

Contraindications
Usually absolute: active, questionably healed or suspected tuberculosis, herpes simplex ophthalmia, acute psychoses or severe psychoneuroses, history of blood dyscrasia, the frankly senile patient, and active peptic ulcer.

Relative: exanthematous diseases, particularly varicella and fungal diseases (for other viral diseases, the physician must weigh the possible undesirable effects against anticipated clinical improvement), diverticulitis, recovery phase after gastrointestinal surgery, any condition complicated by cardiovascular disease, renal insufficiency, moderate or severe diabetes mellitus, thrombophlebitis, osteoporosis, convulsive disorders, thyroid disease, history of drug allergy, history of peptic ulcer, hypertension, the elderly patient, psychotic tendencies, pregnancy, except in severe disease (the safety of Sterazolidin in pregnancy has not been established), edema, and hepatic damage.

Its use in conjunction with other potent chemotherapeutic agents may greatly increase the possibility of toxic reaction, and this practice is, therefore, inadvisable. Large doses are contraindicated in patients with glaucoma.

Warning Coumarin-type anticoagulants depress prothrombin activity. This is accentuated in some cases when Butazolidin, brand of phenylbutazone, is simultaneously employed in treatment; occasional instances of severe bleeding have been reported. Patients receiving coumarin-type anticoagulants should be very carefully followed for evidence of excessive increase of prothrombin time when Sterazolidin is added to this regimen. Anticoagulant therapy can then be properly adjusted, if necessary. When prescribed alone, Sterazolidin has not been shown to influence prothrombin activity. Persistent or severe dyspepsia may be indicative of peptic ulceration. In these instances, upper gastrointestinal x-ray diagnostic tests should be performed if the drug is continued. Pyrazole compounds, such as phenylbutazone, may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Patients receiving such concomitant therapy, therefore, should be carefully observed for this effect.

Precautions and Adverse Reactions *Gluco-Corticoid Activity:* In some diabetic patients on prednisone, the insulin requirements may be increased. It is advisable to observe diabetic patients carefully during the treatment period. Since gluco-corticoids may unmask latent diabetes, all patients should be observed for this effect.

Electrolytes: Many patients receiving prednisone in average amounts show some loss of sodium, with little or no loss of potassium. With continued high dosage, however, sodium retention and potassium loss have been observed. Butazolidin, brand of phenylbutazone, has a definite tendency to produce sodium retention and hence, edema, particularly in the older age group. Elderly patients or those with hypertension, cardiac defect or renal dysfunction should therefore use Sterazolidin with special caution and the drug should be discontinued if edema develops. Development of edema may be prevented or minimized by withholding salt from the diet. Sodium retention may be counteracted with oral diuretics.

Nitrogen: With the recommended dosage of Sterazolidin, the possibility of nitrogen loss is remote. However, it is recommended that patients receive adequate protein in their diet. Osteoporosis or spontaneous fractures may occur with prolonged use of prednisone.

Gastrointestinal Tract: Clinical and animal studies do not indicate that the ulcerogenic activity of prednisone or Butazolidin, brand of phenylbutazone, is enhanced in the combination. To overcome gastrointestinal discomfort and occasional eructation in sensitive patient the medication is best taken at mealtime or with milk; Sterazolidin contains antacid components to minimize the incidence of gastric complaints. All patients should be warned to report immediately the occurrence of black or tarry stools. The development of anemia shou immediately suggest gastrointestinal bleedin

Blood Elements: Patients receiving prednisor exhibit an eosinophil response similar to that seen with other steroids. During the initial weeks of treatment, Butazolidin, brand of phenylbutazone, usually causes some degree of hemodilution and resultant lowering of the red cell count. This phenomenon does not represent a true anemia and is not indicative of intolerance, but must be distinguished from true anemia secondary to gastrointestinal bleeding or other causes. With the extensive use of Butazolidin, brand of phenylbutazone, rare cases of agranulocytosis have occurred (ratio less than 1 per 200,000 patients). It should also be noted that agranulocytosis ca occur suddenly in spite of regular, repeated normal white counts. Several cases of leukemia and leukemoid reactions have been reported with Butazolidin, brand of phenylbutazone, therapy. Although these reactions cannot be definitely attributed to this drug, th possibility of a causal relationship cannot be excluded. It should also be recognized that arthritic-type pains are sometimes the preser ing symptom of leukemia. Accordingly, all patients receivlng Sterazolidin should have

It's aggressive against acute arthritic pain and inflammation.



And, we want you to know all about it

routine periodic blood counts before and during therapy. Any unexpected, significant change in the total white count, relative decrease in granulocytes, or appearance of immature forms should be regarded as a signal for immediate cessation of therapy and institution of appropriate countermeasures. Thrombocytopenic purpura and aplastic anemia must also be considered possible side effects of therapy with Butazolidin, brand of phenylbutazone.

Stress: Surgery: Prolonged use of prednisone may cause a potentially critical degree of adrenocortical insufficiency which may persist even after cessation of prednisone therapy. Therefore, if a patient is subjected to significant stress, such as surgery or trauma, either during Sterazolidin therapy or within one year after cessation of therapy, it is advisable to administer additional steroid and/or ACTH for the duration of the stress. Delayed wound healing may also occur in patients on prolonged therapy.

Infections: High or prolonged doses of prednisone interfere with the usual immune mechanisms against bacterial and viral infections and may promote their dissemination. In general, steroid treatment should not be given in the presence of infections unless appropriate antibiotic therapy is instituted at the same time. Systemic and localized infection complications during hormone therapy have been observed, including fulminating pneumonia, tuberculosis, moniliasis and aspergillosis. Should intercurrent infection develop, indicated antibiotic therapy must be initiated promptly. Every patient who is to receive Sterazolidin for any length of time should be thoroughly examined, including chest x-ray, for the presence of pulmonary or extrapulmonary tuberculosis.

Hormonal Imbalance: Gluco-corticoids, in prolonged dosage, may cause manifestations of hypercortisonism or Cushing's syndrome, such as: moonface, abnormal fat deposits, mental disturbances, muscle weakness and atrophy, cutaneous striae, acne, ecchymoses, hirsutism, menstrual disturbances, edema, osteoporosis and spontaneous fractures, and hypertension. Also, by suppressing adrenocortical function, chronic prednisone therapy may cause some degree of atrophy of the adrenal glands. Therefore, if Sterazolidin is to be discontinued, the steroid dosage should be tapered off gradually. In addition, it may be advisable to stimulate the adrenal glands with ACTH. Prednisone induces a prompt decrease in the urinary 17-ketosteroids. Pretreatment levels are usually regained within 7 to 14 days after cessation of therapy. Under conditions of long-term administration, a small percentage of patients on phenylbutazone may develop varying degrees of reversible thyroid hyperplasia.

Allergic Response: Development of drug rash should alert the physician to promptly discontinue the drug. The presence of prednisone in Sterazolidin may reduce the degree of allergic response; nevertheless, the same cautious attitude must be preserved with Sterazolidin as with Butazolidin, brand of phenylbutazone, if allergic manifestations occur. Other adverse reactions that have been observed with glucocorticoid therapy include: excessive appetite and weight gain, hyperidrosis, pigmentation, dry,scaly skin, thinning scalp hair, tachycardia, thrombophlebitis, headache, neuropathy (including paresthesias and neuritis), diffuse vasculitis similar to periarteritis nodosa, subcapsular cataracts, impaired renal function, lupus erythematosus-like changes, convulsions, insomnia, abdominal distention, aseptic necrosis of the femoral head, acute pancreatitis and ulcerative esophagitis.

Miscellaneous: Stomatitis and, rarely, salivary gland enlargement occasionally require the interruption of treatment with Butazolidin, brand of phenylbutazone. Adoption of a lower dosage schedule and the institution of strict oral hygiene sometimes prevent recurrence of lesions. The infrequent occurrence of such subjective sensations as vertigo or languor during therapy with Butazolidin, brand of phenylbutazone, is seldom a serious or significant complication. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis and jaundice, hypersensitivity angiitis, pericarditis and several cases of anura and hematuria. Patients should be carefully evaluated before treatment is started and those receiving Sterazolidin must remain under close medical supervision to guard against undesirable reactions such as those described. They should be instructed to report immediately the occurrence of fever, sore throat, lesions in the mouth, or black or tarry stools. It is recommended that periodic examinations of the patient include:

1. Verbal and physical examination, including blood pressure and appraisal of the cardiovascular, digestive and skeletal systems, for indications of toxic reaction.
2. Complete blood count (at weekly intervals during the first month), urinalysis, x-ray and electrolyte studies, as indicated.
3. Check of patient's weight to detect significant water retention.

Dosage Dosage should be individualized. The following general rules should be observed:

In acute therapy, dosage *should not exceed* 12 capsules on the first day and 6 to 8 capsules on succeeding days. Treatment for more than 7 days is rarely necessary. When therapy extends beyond one week, dosage should not exceed 6 capsules a day.

In chronic therapy, dosage *should not exceed* 6 capsules a day and should be tapered off gradually to establish the minimum maintenance level at which the patient still feels reasonably comfortable. A trial period of one week of therapy is considered adequate to determine the therapeutic effect of the drug. In the absence of a favorable response, therapy should be discontinued.

When switching from chronic high steroid therapy to Sterazolidin, the importance of gradual reduction of steroid dosage cannot be overemphasized. It should be kept in mind that the sterold content of 8 capsules of Sterazolidin will replace 10 mg. of prednisone (or its equivalent in related steroids).

Clinical experience indicates that most patients with rheumatoid arthritis may eventually be maintained on 3 to 6 capsules of Sterazolidin a day. It is advisable to administer the total daily requirement in divided doses.

Availability Sterazolidin: Light blue and orange capsules, in bottles of 100 and 1000.
(B)46-660-B

For complete details, please see full prescribing information.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York 10502



THE BREAKUP of a business partnership, the crack-up of a marriage, the shake-up of being fired or reduced to bankruptcy... after any significant loss or severe blow to self-esteem, *both* anxiety and depression almost always follow.





FOR MODERATE TO SEVERE ANXIETY WITH COEXISTING DEPRESSION

TRIAVIL®

TRANQUILIZER-ANTIDEPRESSANT

Containing perphenazine and amitriptyline HCl

For prescribing information, including indications, contraindications, warnings, precautions, and side effects, please see following page.

FOR MODERATE TO SEVERE ANXIETY WITH COEXISTING DEPRESSION

TRIAVIL®

TRANQUILIZER-ANTIDEPRESSANT

Containing perphenazine and amitriptyline HCl

TRIAVIL®2-25: Each tablet contains 2 mg. of perphenazine and 25 mg. of amitriptyline hydrochloride.

TRIAVIL®4-25: Each tablet contains 4 mg. of perphenazine and 25 mg. of amitriptyline hydrochloride.

TRIAVIL®2-10: Each tablet contains 2 mg. of perphenazine and 10 mg. of amitriptyline hydrochloride.

TRIAVIL®4-10: Each tablet contains 4 mg. of perphenazine and 10 mg. of amitriptyline hydrochloride.

INDICATIONS: Patients with moderate to severe anxiety and/or agitation and depressed mood; patients with depression in whom anxiety and/or agitation are severe; patients with depression and anxiety in association with chronic physical disease; schizophrenics with associated depressive symptoms.

CONTRAINDICATIONS: Central nervous system depression from drugs (barbiturates, alcohol, narcotics, analgesics, antihistamines); bone marrow depression; urinary retention; pregnancy; glaucoma. Do not give in combination with MAOI drugs because of possible potentiation that may even cause death. Allow at least 2 weeks between therapies. In such patients therapy with TRIAVIL should be initiated cautiously, with gradual increase in the dosage required to obtain a satisfactory response.

WARNINGS: Patients should be warned against driving a car or operating machinery or apparatus requiring alert attention, and that response to alcohol may be potentiated.

PRECAUTIONS: Suicide is always a possibility in mental depression and may remain until significant remission occurs. Supervise patients closely in case they may require hospitalization or concomitant electroshock therapy. Untoward reactions have been reported after the combined use of antidepressant agents having various modes of activity. Accordingly, consider possibility of potentiation in combined use of antidepressants. Not recommended for use in children. Mania or hypomania may be precipitated in manic-depressives (perphenazine in TRIAVIL seems to reduce likelihood of this effect). If hypotension develops, epinephrine should not be employed,as its action is blocked and partially reversed by perphenazine. Caution patients about errors of judgment due to change in mood.

SIDE EFFECTS: Similar to those reported with either constituent alone.

Perphenazine: Should not be used indiscriminately. Use caution in patients with history of convulsive disorders or severe reactions to other phenothiazines. Likelihood of untoward actions greater with high doses. Closely supervise with any dosage. Side effects may be any of those reported with phenothiazine drugs: blood dyscrasias (pancytopenia, thrombocytopenic purpura, leukopenia, agranulocytosis, eosinophilia); liver damage (jaundice, biliary stasis); extrapyramidal symptoms (opisthotonos, oculogyric crisis, hyperreflexia, dystonia, akathisia, dyskinesia, parkinsonism) usually controlled by the concomitant use of effective antiparkinsonian drugs and/or by reduction in dosage, but sometimes persist after discontinuation of the phenothiazine; severe acute hypotension (of particular concern in patients with mitral insufficiency or pheochromocytoma); skin disorders (photosensitivity, itching, erythema, urticaria, eczema, up to exfoliative dermatitis); other allergic reactions (asthma, laryngeal edema, angioneurotic edema, anaphylactoid reactions); peripheral edema; reversed epinephrine effect; endocrine disturbances (lactation, galactorrhea, disturbances of menstrual cycle); grand mal convulsions; cerebral edema; altered cerebrospinal fluid proteins; polyphagia; paradoxical excitement; photophobia; skin pigmentation; failure of ejaculation; EKG abnormalities (quinidine-like effect); reactivation of psychotic processes; catatonic-like states; autonomic reactions such as dryness of the mouth, headache, nausea, vomiting, constipation, obstipation, urinary frequency, blurred vision, nasal congestion, and a change in the pulse rate; hypnotic effects; pigmentary retinopathy; corneal and lenticular pigmentation; occasional lassitude; muscle weakness; mild insomnia; significant unexplained rise in body temperature may suggest intolerance to perphenazine, in which case discontinue. Antiemetic effect may obscure signs of toxicity due to overdosage of other drugs or make diagnosis of other disorders such as brain tumors or intestinal obstruction difficult. May potentiate central nervous system depressants (opiates, analgesics, antihistamines, barbiturates, alcohol), atropine, heat, and phosphorous insecticides.

Amitriptyline: Careful observation of all patients recommended. Side effects include drowsiness (may occur within the first few days of therapy); dizziness; nausea; excitement; hypotension; fainting; fine tremor; jitteriness; weakness; headache; heartburn; anorexia; increased perspiration; incoordination; allergic-type reactions manifested by skin rash, swelling of face and tongue, itching; numbness and tingling of limbs, including peripheral neuropathy; activation of latent schizophrenia (however, the perphenazine content may prevent this reaction in some cases); epileptiform seizures in chronic schizophrenics; temporary confusion, disturbed concentration, or transient visual hallucinations on high doses; evidence of anticholinergic activity, such as tachycardia, dryness of mouth, blurring of vision, urinary retention, constipation, paralytic ileus; agranulocytosis; jaundice. The antidepressant activity may be evident within 3 or 4 days or may take as long as 30 days to develop adequately, and lack of response sometimes occurs. Response to medication will vary according to severity as well as type of depression present. Elderly patients and adolescents can often be managed on lower dosage levels.

For more detailed information consult your Merck Sharp and Dohme representative or see the package circular.

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where today's theory is tomorrow's therapy



introducing alginates to antacids

for a difference in taste you can feel

Derived from seaweed, and long used to impart velvety consistency to foods, alginates—a Warner-Chilcott contribution to antacid palatability—help 1) erase the chalkiness and grittiness found with some other antacids; 2) dispel unpleasant aftertaste. Like ice cream, Gelusil-M is smooth and creamy; and it has a cool mint flavor. Thus, for your patients Gelusil-M is excellent to start on and easy to stay on.

introducing

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each 5 ml. teaspoonful contains:
500 mg. magnesium trisilicate
250 mg. aluminum hydroxide (Warner-Chilcott)
200 mg. magnesium hydroxide

*U.S. Patent No. 3,326,755

a consistent buffering anticostive† antacid

†Avoids constipation.

See next page for prescribing information ▶

GELUSIL–one name to remember...and a dosage form for every patient.



Gelusil®-M Liquid

Indications: Gelusil-M is indicated for prompt and dependable symptomatic relief of peptic ulcer, gastritis, heartburn, hiatal hernia, esophagitis, and other conditions for which control of gastric hyperacidity is required.

Precaution: Prolonged or intensive therapy in patients with severe renal insufficiency may lead to hypermagnesemia.

Dosage: One to two teaspoonfuls (5 ml. to 10 ml.) between meals and at bedtime or whenever symptoms occur. Certain conditions, such as acute peptic ulcer, may require individualized dosage. If diarrhea occurs, reduce dosage or discontinue use.

Supplied: Gelusil-M (spearmint-flavored)—light green bottles of 12 fl. oz.; and a **special hospital pack.** Keep tightly closed—shake vigorously.

Gelusil® Tablets

Easy to take along / easy to take / pleasantly mint-flavored. An antacid with adsorbent and demulcent properties which contains in one tablet: 0.25 Gm. aluminum hydroxide (Warner-Chilcott) and 0.5 Gm. magnesium trisilicate (USP).

Dosage: 2 tablets—or more—between meals and at bedtime, or whenever symptoms occur. Tablets should be chewed.

Regular Gelusil® Liquid

Pleasant mint flavor...ideal for hospital or home. Available in 12 fl. oz. and 6 fl. oz. bottles and a special hospital pack. An antacid which contains adsorbent and demulcent agents in each 4 ml. teaspoonful: 0.25 Gm. aluminum hydroxide (Warner-Chilcott), 0.5 Gm. magnesium trisilicate (USP).

Dosage: 2 teaspoonfuls (4 ml. each)—or more—between meals and at bedtime, or whenever symptoms occur.

Also Available: Gelusil® Flavor-Pack, Gelusil-Lac®.

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■ With that "switch", Doctor, your income stops.

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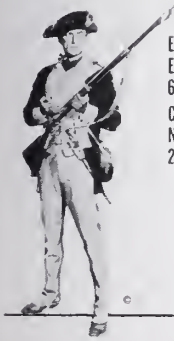
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And it can often begin to happen in 3 to 5 days with an antidepressant like Pertofrane. There's a lifting of depressed mood . . . a restoration of psychomotor activity. Patients usually begin to cope, work, maybe play, even enjoy.

It's not all beautiful. Sometimes there are side effects. And not everybody can take the drug. It may even be a slow process. But along with the care and comfort you give depressed patients, consider Pertofrane. Then consider the response.

Please read the prescribing information for full details on contraindications, warnings, precautions, adverse reactions and dosage. It's summarized on the left.

Pertofrane®

desipramine hydrochloride

New 50-mg. capsules now available.

Pertofrane® desipramine hydrochloride

Indication: Mental depression.

Contraindications: Do not use MAO inhibitors concomitantly or within 2 weeks of the use of this drug. Hyperpyretic crises or severe convulsive seizures may occur with such combinations, potentiation of adverse reactions can be serious or even fatal.

When substituting Pertofrane in patients receiving an MAO inhibitor, allow an interval of at least 14 days. Initial dosage in such patients should be low and increases should be gradual and cautiously prescribed.

The drug is contraindicated following recent myocardial infarction and in patients with a known hypersensitivity to tricyclic antidepressants.

Warning: Activation of psychosis may occasionally be observed in schizophrenic patients. Due to atropine-like effects and sympathomimetic potentiation, use only with the greatest care in patients with narrow-angle glaucoma or urethral or ureteral spasm.

Do not use in patients with the following conditions unless the need outweighs the risk: severe coronary heart disease with EKG abnormalities, progressive heart failure, angina pectoris, paroxysmal tachycardia and active seizure disorder (may lower seizure threshold).

Desipramine and the parent compound, imipramine, have been shown to block the action of guanethidine and related adrenergic neuron-blocking agents.

Hypertensive episodes have been observed during surgery.

The concurrent use of other central nervous system drugs or alcohol may potentiate adverse effects. Since many such drugs may be used during surgery, desipramine should be discontinued prior to elective procedures.

Caution patients on the possibility of impaired ability to operate a motor vehicle or dangerous machinery.

Do not use in women who are or may become pregnant unless the clinical situation warrants the potential risk, and do not use in patients under 12 years of age.

Because of increased sensitivity to the drug, use lower than normal dosage in adolescent and geriatric patients.

Precautions: Potentially suicidal patients require careful supervision and protective measures during therapy. Discontinuation of the drug may be necessary in the presence of increased agitation and anxiety shifting to hypomanic or manic excitement.

Atropine-like effects may be more pronounced (e.g. paralytic ileus) in susceptible patients and in those receiving anticholinergic drugs (including antiparkinsonism agents).

Prescribe cautiously in hyperthyroid patients and in those receiving thyroid medications; transient cardiac arrhythmias have occurred in rare instances.

Periodic blood and liver studies should supplement careful clinical observations in all patients undergoing extended courses of therapy.

Adverse Reactions: The following have been reported. *Nervous System*: dizziness, drowsiness, insomnia, headache, disturbed visual accommodation, tremor, unsteadiness, tinnitus, paresthesias, changes in EEG patterns, epileptiform seizures, mild extrapyramidal activity, falling and neuromuscular incoordination. A confusional state (with such symptoms as hallucinations and disorientation), particularly in older patients and at higher dosage, may require discontinuation of the drug. *Gastrointestinal Tract*: anorexia, dryness of the mouth, nausea, epigastric distress, constipation and diarrhea. *Skin*: skin rashes (including photosensitization), perspiration and flushing sensations. *Liver*: rare cases of transient jaundice (apparently of an obstructive nature) and liver damage. If jaundice or abnormalities in liver function tests occur, discontinue the drug and investigate. *Blood Elements*: bone-marrow depression, agranulocytosis, thrombocytopenia and purpura. If these occur, discontinue the drug. Transient eosinophilia has been observed. *Cardiovascular System*: orthostatic hypotension and tachycardia. Carefully supervise patients requiring concomitant vasodilating therapy, particularly during initial phases. *Genitourinary System*: urinary frequency or retention and impotence. *Endocrine System*: occasional hormonal effects, including gynecomastia, galactorrhea and breast enlargement and decreased libido and estrogenic effect. *Sensitivity*: urticaria and rare instances of drug fever and cross-sensitivity with imipramine.

Dosage: All patients except geriatric and adolescent: 50 mg. t.i.d. (150 mg. daily). Dosage may be increased up to 200 mg. daily. Geriatric and adolescent patients should usually be started with lower dosage (25 to 50 mg. daily) and may not tolerate higher doses. Dosage may be increased up to 100 mg. daily.

Lower maintenance dosages should be continued for at least 2 months after obtaining a satisfactory response.

Mild anxiety and agitation which may accompany depression usually remit as the depression responds. Occasionally, however, a sedative or tranquilizer may be indicated.

Availability: Maroon and pink capsules of 50 mg. in bottles of 100; pink capsules of 25 mg. in bottles of 100 and 1000. (B)46-530-G

For complete details, please see the full prescribing information.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York 10502

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One good way to help these patients is to give them a reducing diet based on ordinary eating patterns.

Campbell has prepared a sensible plan for weight control based on ordinary eating patterns. The plan consists of a patient instruction booklet and a set of menus which provide approximately 1,400 calories daily. The menus are balanced to provide the minimum daily requirements of nutrients.



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Pro-Banthine® Helps...

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...HEAL the ulcer

The efficiency of Pro-Banthine—its favorable balance of therapeutic and secondary actions—has been thoroughly tested and observed. This quality has been demonstrated surgically, roentgenographically, cinegastroscopically and, above all, clinically.

When physicians needed to relax the restless duodenum for the recently refined technic of hypotonic duodenography they logically turned to Pro-Banthine.

For years Pro-Banthine has been the most widely used anticholinergic medication for calming the gastrointestinal tract—for suppressing secretion, prolonging the action of antacids and providing the proper environment for healing peptic ulcers.

These established therapeutic actions make Pro-Banthine particularly useful in:

- peptic ulcer
- gastritis
- diverticulitis
- irritable colon
- biliary dyskinesia
- functional hypermotility

We wish to thank Drs. Marcia K. Bilbao, Louis H. Frische, Josef Rösch and Charles T. Dotter for this exceptionally graphic example of hypotonic duodenography.

Contraindications: Glaucoma, severe cardiac disease.

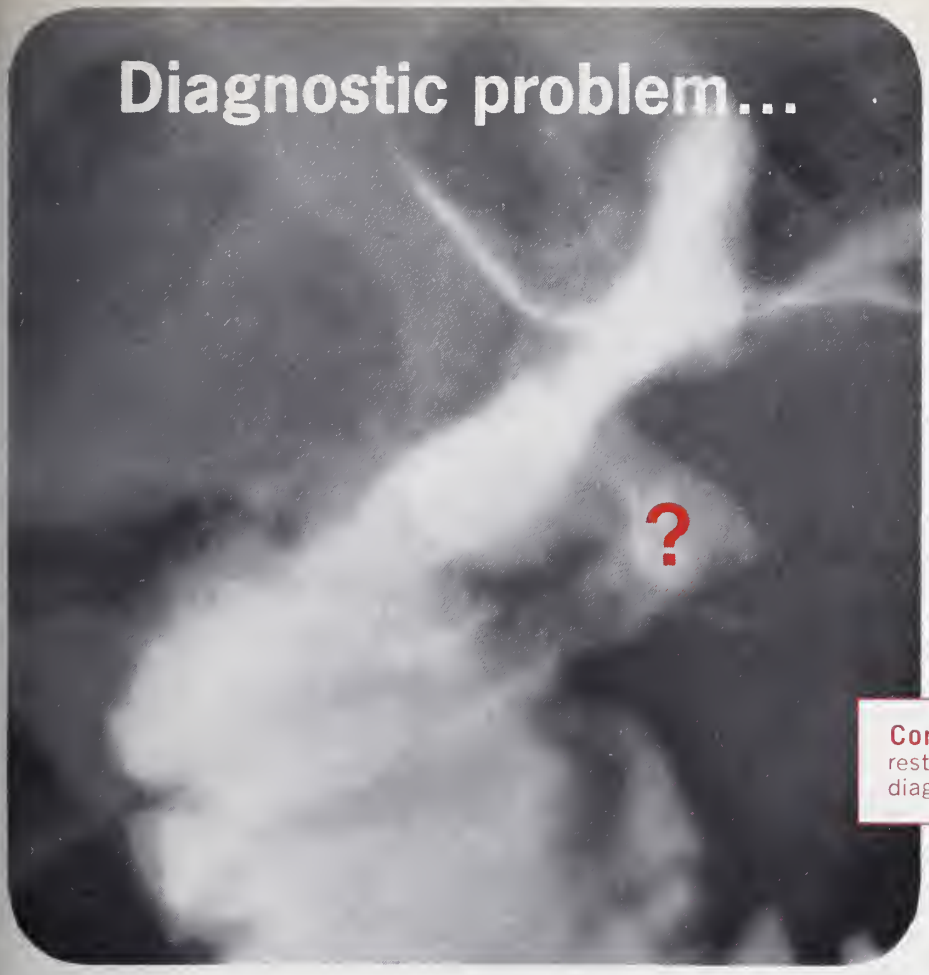
Precautions: Since varying degrees of urinary hesitancy may occur in elderly men with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug. Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

Side Effects: The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

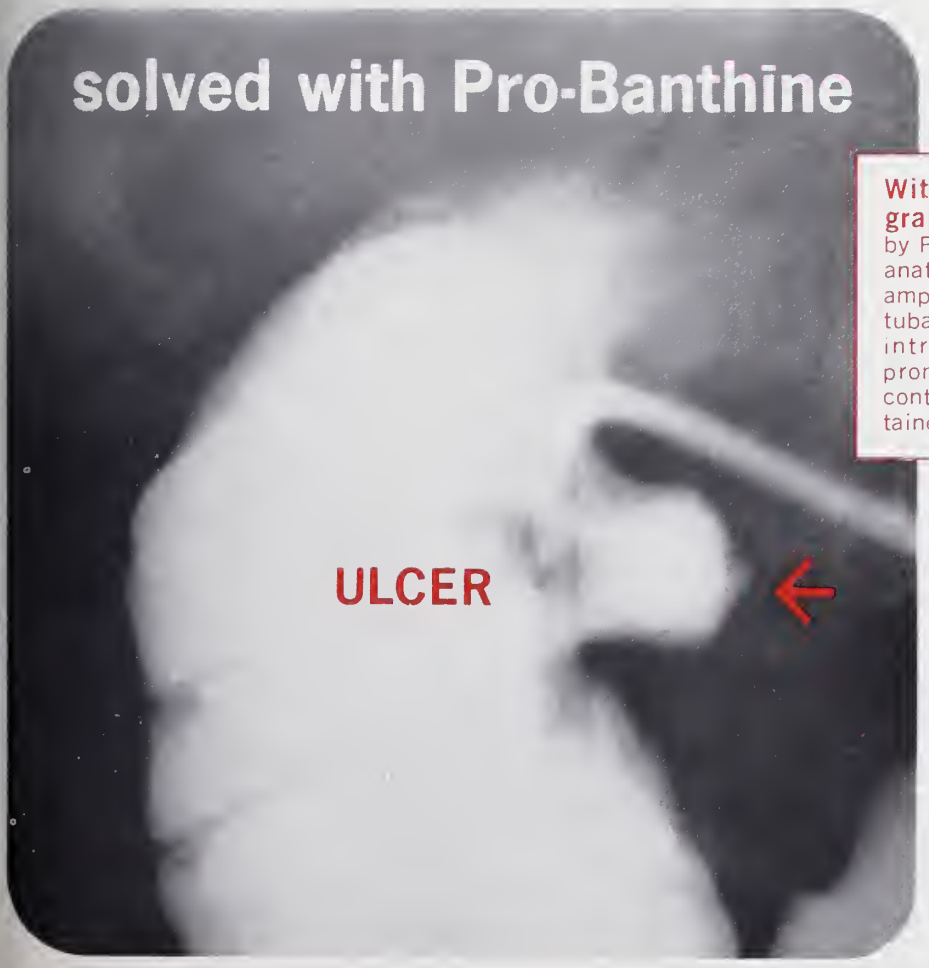
Dosage: The maximal dosage tolerated without excessive side effects is usually the most effective. For most adult patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two 15-mg. tablets four to six times daily may be required. Pro-Banthine (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type vials of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

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Conventional x-rays of the restless duodenum are often diagnostically indefinite.



With hypotonic duodenography duodenal calm induced by Pro-Banthine permits clear anatomic appraisal. In this example the duodenum was intubated. Pro-Banthine, 60 mg. intramuscularly, produced prompt aperistalsis. Double contrast visualization was obtained with barium and air.

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Guest Editorial . . . .

From the President

IT IS NOT OFTEN, even in these days of great and rapid change, that a program bursts upon the scene with the impact of the Virginia Regional Medical Program. We might also add that few programs have so stirred the imagination and raised so many questions.

There are undoubtedly many Virginia physicians who will not readily recognize the term "Regional Medical Program". They will, however, recognize the original designation of "Heart, Cancer, Stroke".

The Medical Society of Virginia admittedly viewed the beginning of VRMP with considerable concern. Here was another in a steadily lengthening line of Federally-financed programs—one which raised serious questions involving patient care. The Society soon recognized the fact that it had a definite responsibility to the physicians of Virginia and set about "involving" itself to the maximum extent possible. It can point with pride to its Committee on Heart, Cancer, Stroke which has played a prominent role in the development of VRMP.

Dr. Thomas W. Murrell, Jr., and Dr. William J. Hagood, Jr., have served as Society representatives on the Governor's VRMP Regional Advisory Group. The Advisory Group also includes other members of the Society: namely Dr. Mack I. Shanholtz, Dr. Mason C. Andrews, Dr. Lloyd B. Burk, Jr., Dr. Donald R. Holsinger, Dr. Kinloch Nelson and Dr. J. Edwin Wood, III.

Now that the dust of uncertainty has just about settled, we note with considerable satisfaction that the Virginia Regional Medical Program, under the administration of Dr. Eugene Perez and his competent staff, is proceeding on a course which will hopefully lead to more and better continuing education. As a matter of fact, its stated goal is—

" . . . improved patient care through continuous upgrading of the knowledge and skills of physicians, dentists, nurses, and allied health professionals so that the latest and best in modern medical care for heart disease, cancer, stroke, and related diseases is available to all the people of Virginia. The objective of improved patient care is to be achieved by establishing voluntary cooperative arrangements among the medical schools and/or medical centers with the practicing physicians, dentists, nurses, and allied health professionals primarily through programs of continuing education . . . ."

The Virginia Regional Medical Program has now become a fact of life and it is vitally important that all physicians become knowledgeable about its activities. Only by understanding its objectives, methods of operation and potential effect on medical care in this State can we really assume a position of leadership and influence.

As President of The Medical Society of Virginia, I congratulate Dr. Warthen and the Virginia Medical Monthly on this special issue. The following pages should be of great interest and value to all physicians.

F. Ashton Carmines, M.D.
President

311 Main Street
Newport News, Virginia

The Responsibilities of Medicine in Advancing Our Health Care System

DWIGHT L. WILBUR, M.D.
San Francisco, California

IN MAKING THESE COMMENTS I would like to tell you a little story about Woodrow Wilson. In his early days after he finished his studies in law school, he returned to his old home in Staunton, Virginia, and hung out a shingle to practice law. His first three cases were tried before a judge who was an old family friend of the Wilsons. Woodrow lost all three cases. He was terribly depressed about this because he knew he had ability; he had the interest and had worked hard. And this was his hometown and he was just getting underway. So, one evening, he went over to visit the judge. He said, "I would like to talk to you man to man and have you tell me what my trouble is." And the old judge said to him, "Well, Woodrow, you have done a superb job in studying these cases. The briefs you have prepared could be used as models in any law school in this country. But your basic problem is that you practice law not the way it is, but the way you think it should be."

This was exemplified in Wilson's subsequent career, particularly in relation to the League of Nations. He was so idealistic that the League had to be only the way he thought it should be. He could not accept the political realities at that time of the nations of the world. My concern now is that those who wish to greatly modify the health care system of this country, and to do it rapidly, may get into the same difficulty that Woodrow Wilson did. They may not lose all the cases, but, in the long run, as with the League of Nations, they are not going to win. And in the meantime, they will needlessly upset an evolving system and do a great deal of harm to many people. I will indicate in my comments why I believe this is so.

The fact that I have been asked to speak on the responsibilities of the profession in advancing a health care system suggests that we do not have a health care system in this country now. I have heard this comment made on a number of occasions. Of course, if you know anything about it, you will know this is not accurate. We do have a health care system in this country. We have top-flight medicine here. There is no system of medicine anywhere in the world that can compare with that in this country. If you don't believe it, all you have to do is note that two generations ago as in my father's time, he and all others who wanted to get ahead in medicine had to go abroad for their advanced training. But this is no longer the case. Now, all the world is coming to this country for medical education, for knowledge of medical research, for information in regard to our health care system. We are the center of medicine in the world.

I don't mean we have a perfect system. I will point out that we have far from a perfect system. There are many improvements that need to be made.

Now, what does this system consist of? Basically, it has to do with a physician-patient relationship, the one-to-one voluntary relationship of one man seeking and one giving relief.

Dr. Wilbur is immediate past president of the American Medical Association.

This address was delivered at the National Conference of Regional Medical Program Coordinators in Arlington, Virginia, October 1, 1968.

Here it is important to stress a point that is vital but tends to be lost sight of. In our society we are accustomed to hailing mass methods and mechanization as improvements in fields like manufacturing and handling traffic and keeping track of bank checks. Too many people transfer this kind of thinking to human matters, and assume that mass methods and mass handling will also be improvements there.

This overlooking of the human factor is at the root of many of our misfortunes in education. And it can be the root of disaster in our health care.

The human being is at his most vulnerable when he is sick. It is then he needs most the humane attention and understanding of a trusted and knowledgeable expert—of the physician he turns to voluntarily and into whose care he trusts his life and well-being. Since we know that a major part of the health of the individual is based on his psychological equilibrium, it is clear that this sense of trust and well-being is all important in his chances of returning to good health.

The long-discussed patient-physician relationship is the heart of this rule of human well-being. Without it, we may have eliminated "inefficiencies", but we may also have eliminated most of what health care can achieve.

In this country, this relationship occurs primarily in the physician's office. The physician may be a solo practitioner or he may be one of a group. The physician-patient relationship may occur in the setting of the home. But more frequently today it occurs in the setting of the hospital—in the emergency room of the hospital and in the outpatient portion of the hospital. It occurs to some extent in other areas but these are the prime ones, and within this system there is formal or informal referral of patients by one physician to another. During this past year this system provided 1,250,000,000 visits between the physician and the patient in one or the other of these locations I have mentioned.

It is a very large system quantitatively and I believe good qualitatively. In this system the work is carried out by physicians who are either solo practitioners in an informal group, or practicing in a formal group of varying sorts. They have varying capabilities depending on their education, on their motivation and particularly on their participation in continuing medical education.

These visits are carried out in physical structures, primarily physicians' offices and hospitals, as I have indicated. Hospitals are fairly well spread over our country, although not equally spread. They have varying capacities and capabilities and are of varying ages and stages of obsolescence. They are generally acute general hospitals financed in part through Hill-Burton funds since World War II.

Health care in this hospital system is financed in three ways. The first is voluntary health insurance, which last year paid about one-third of the cost ($11 billion). Second, at least a third was financed by government—at the federal, state or county level. The remaining financing—less than a third—came from other sources.

This is a good system and the one we have to deal with as we look to the future. Those of us in the profession have to give some consideration to working with it and within it.

This system has some weaknesses and I would like to emphasize them. The first is the variable distribution of health services in this country and their consequent unequal availability. This weakness has to do particularly with variable rural and urban distribution of hospitals and physicians' services. It results in variability of the quality of care the system can render. There are certain barriers to getting into the system, barriers of entry. These barriers have largely to do with (1) ignorance—ignorance of how to get into the system, or that there is a system, or how to find the right physician at the right time in the right place. Other

barriers are (2) financial, with which we are all familiar, (3) geographic, which I don't need to discuss further; and a very important one—(4) social and psychological barriers. This last barrier will exist a thousand years from now because human nature doesn't completely change. There are many people who, because of psychological and social barriers, particularly those related to fear and anxiety, do not want to get into this system, want no part of it, or want a part of it only at certain specified times when pain or some other symptoms drive them to it. A great many people will not use the health care resources when they are brought to them and provided free. Others seek panaceas from quacks or cures from simple nostrums.

Another weakness in our system is obsolescence—obsolescence of some physicians, obsolescence of hospitals or other physical structures. I shall say a bit more on this later.

Another very important weakness is lack of progressive institutional care where patients can "flow" readily, for example, from the intensive care unit after an acute myocardial infarction to the acute general hospital bed and on to continuing care, if necessary, in a bed in extended-care facilities, and then home for home-care services. We have not worked out an adequate system that will provide a progressive "flow" of patients through these various modalities that should be in close physical relationship. Rather, we now confine this care pretty largely to an intensive-care unit at first, subsequently to the acute general hospital bed, and then home.

Another weakness in our system is the lack of proper use of those in the allied health professions and services. This is an area in which there is great ferment at present. I think there is little question that, as time goes by, we shall see great improvement.

The final weakness is in the financing of health care. It is clearly inadequate for many people. It must be improved to meet, among other things, the economic stress of the individual who is sick or whose family is sick.

Now what are some of the improvements needed? First, improving health manpower. We need more manpower and we need better manpower. In terms of physicians this is very time-consuming and expensive. Five new medical schools were opened in this country in the fall of 1967, five new ones were opened in the fall of 1968, and two new ones will open next year. Twelve new medical schools in three years is a pretty good record considering the cost of establishing a new medical school. Existing medical schools have to some extent, but to a disappointing extent, increased their enrollments. We do need more physicians. We also need a higher-quality product from our medical schools. I think one can say that at present the quality of physicians graduating from our schools is the best that has ever graduated from medical school in any country, but improvement is needed, particularly to meet the rapid developments in medicine.

We need to improve the existing medical manpower, the manpower now in practice. This basically, I believe, is the most important function of the Regional Medical Programs. I will attempt to convince you of this, or at least present the evidence that has convinced me.

Very little is really understood about continuing medical education. In this respect, let me indicate now the great discussions that are going on in respect to undergraduate medical education, in fact, in respect to all general education in our colleges and universities. There is no agreement as to how best to approach this matter. And similarly there is very little agreement as to how to educate the physician for practice in the future. Yet this is the real key to the success of the Regional Medical Programs, the key to the success of our health care system.

Motivation and communication are the

keys to successful continuing education. We need to learn a great deal more about what motivates individuals, and how they can communicate better with one another. These two essential factors must be stimulated and used effectively to further the education of practicing physicians.

We also need to know something we do not as yet know—why are there a substantial number of physicians who never participate in continuing medical education? The answer to this question is much more important, in my view, than it is to try to increase the number of physicians who take courses and participate in formal programs of continuing medical education. And, as I said a moment ago, the real effectiveness of Regional Medical Programs, to me, is that of continuing medical education. How can one successfully carry out any program of advance in medical care of patients with cardiovascular or heart disease, or cancer or related diseases, unless one can do so through the physician who is going to carry out that responsibility and who has this as his prime responsibility?

We need among other things to improve the capacity of the physician to practice, not only in terms of what he knows, but in terms of the facilities he has available. Let me point out what I think is one thing that Regional Medical Programs have done in a superb way. This is the encouragement to establish coronary care units in many hospitals. Encouragement of these as they are now established, or thought about in an informal way in almost every substantial hospital in this country, is a move as effective and important as anything else that has been done in the last 20 years in the whole area of the continuing medical education of physicians. It not only has saved lives, but equally important, it has made physicians conscious of the need to acquire more information, more skill, and more capability in the management of patients with acute cardiac arrhythmias, acute myocardial infarction, or other acute manifestations of heart disease. Furthermore, in most such units there are established basic orders: requirements for the care of patients who go into these units. Physicians must learn what these basic orders are and understand the importance and significance of them. Furthermore, some physicians, for the first time, have taken a serious interest in the immediate as well as long-term treatment of cardiac arrhythmias. This is a prime function of the coronary care unit—the prevention and management of cardiac arrhythmias—and I suspect the coronary care units again have done more to inform the profession of the important practical means by which cardiac arrhythmias can be dealt with than has any other single measure. In hospitals where such a unit exists, a standard has been set that has been a very important factor in the education of practicing physicians.

I hope that in some way the same thing could be done in relationship to the individual who has a stroke. Perhaps the establishment of cerebrovascular units where neurologists, neurosurgeons, vascular surgeons, internists, and those in general practice, working together with specially trained nurses and subsequently with physical therapists, speech therapists, occupational therapists and others, could bring to bear on the individual with a cerebral vascular lesion all that medicine has to offer. This could not be done in the small hospital, except in an informal way. But what could be accomplished in the larger hospital, particularly in the teaching hospital, would to a considerable extent gradually filter to the smaller hospital and become another very important method of continuing education.

For the cancer unit, I have less enthusiasm —except in isolated circumstances. But through tumor boards, tumor conferences, tumor registries, and establishment of centers for chemotherapy, radiation therapy and diagnosis, many similar benefits would bolster continuing medical education.

Another important approach in improving the medical profession's role in the health

care system is the further stimulation of peer review. This can best be done through the medical staff of the hospital—by stimulating the adequate function of all those committees that have to do with reviewing the health care of the patients in that institution. Tissue committees, medical record committees, audit committees, abortion committees, evaluation committees and utilization review committees have all served very useful educational functions and have significantly raised the level of medical practice in the hospitals in this country. Such broad viewing groups as the Joint Commission on Accreditation of Hospitals, the Council on Medical Education, the AMA and Residency Review Committees for those hospitals in which there are residency programs are important mechanisms at the national level. The appointment of Directors of Medical Education, of full-time staff physicians, and hospital staff consultants who will see patients for other physicians without any economic return are means by which, within the hospital, the level of practice can be greatly elevated and lead to effective continuing medical education.

Another commendable area in which the Regional Medical Programs have been working is bolstering communication between community and smaller hospitals and the larger teaching institution. The achievement of rapid communication, particularly in respect to mechanical devices such as electrocardiographic tracings and monitoring devices of various sorts, unquestionably will be significant—but of less importance in my judgment than some of the other forward steps I have mentioned.

Regional Medical Programs will stimulate planning by the medical profession and others with interest in the health care field. This is best done at the local and regional level involving physicians, hospital leaders, faculties of medical schools, medical staffs of hospitals and those with professional, technical and financial interests and skills in the field of health care.

Perhaps the most effective unit to carry this out is the medical staff of a hospital. I needn't go into this further except to say that an effective planning body of the medical staff in association with other members of the hospital team can do a great deal to raise not only standards of practice, but the caliber of continuing education for the practicing physician. Medical schools and medical centers can do the same by the expansion of clinical facilities, by the expansion of educational facilities, and by aiding the normal flow of patients from physicians to university hospitals and medical centers. When such flows are disrupted, when they are disarrayed by some sort of mechanism—particularly semi-legal or legal ones or by unsophisticated planning bodies—there is apt to be very serious disruption of the normal relationships that lead to the best patient care. In turn, the education of the practicing physician suffers. In this relationship it is important to stimulate a normal flow and not to attempt to divert the normal flow into abnormal channels.

At the level of national medical associations much can be done to improve the health care system. This can be done very effectively by the development of more information on the diagnosis, prevention and treatment of heart disease, cancer and stroke, and to correlate the experience of experts and of large centers. I'm aware, of course, of what has been done in this respect with the support of Regional Medical Programs through studies being made by the American College of Surgeons, the American Cancer Society, the American Heart Association, and the American Neurological Association.

It is very important not to attempt to establish or impose national standards of treatment. These would be helpful at first, without question. But in the long run they would delay progress and delay it seriously. In this regard there may be no better example than what has happened recently concerning P.K.U. and mental deficiency.

For a while it looked as if such testing was going to lead to the prevention of mental deficiency in a significant number of youngsters. Unfortunately, in some forty states, testing for P.K.U. in the urine of new-born infants was frozen into the law. Now these laws will all have to be changed because in the meantime it has been learned that this is not the approach to the problem, that it is not sound, and that mistakes were made, both in positive and negative ways. For example, in the normal infant, it is reported that the limitation of the diet on the basis of a false positive P.K.U. test may produce mental deficiency when it did not exist. So it is very important not to freeze into a standard or regulation, not to freeze into law, those things that are not clearly proven.

But much can be done at the national level in respect to informing physicians on such important issues as the use of anticoagulants, anti-arrhythmics, surgical treatment of cerebral-vascular lesions and the treatment of cancer. In the latter in particular, there is much uncertainty at the present time in regard to many aspects of the surgical, radiological and chemotherapeutic treatment of cancer.

Furthermore, national associations can play a significant role in cooperating with other groups in determining the value of multiphasic screening testing centers and methods of early detection of cancer. But let me issue a word of caution here, too. We really don't know what the benefits are of the multiphasic screening process. It's important, I believe, to let centers, such as that of the Kaiser Hospital Group, determine, among other things, what benefits really flow from the multiphasic screening process. To establish such centers all over the country until we know would be a great mistake.

Let's look at detection of cancer, for example. For a while it looked as if everyone should have his chest x-rayed once each year. We now know that in terms of the early successful treatment of cancer of the lung, such x-ray methods are essentially useless. But for those means that have proved to be useful, such as that of the cervical smear for cancer detection, further education of practicing physicians in its use should be a prime function of Regional Medical Programs. I think all of you who have contact with practicing physicians will recognize that most physicians now do a cervical smear as part of the general examination of women.

Let me make a few comments about my views on the role of the Regional Medical Programs in the immediate future. First look at the title. Regional—that's the first word. It is regional, not national. And it is very wisely said, because these are Regional Programs, they are not national programs. These programs should be primarily educational, for the better educated physicians are, the higher the quality of medical care they render—the better the diagnosis and care of the patient with heart disease, cancer, and stroke. Facilities and financing are important, but of prime importance is the widespread availability of high-quality medical care. The key to this is more and better education of practicing physicians.

The function of the Regional Medical Programs, as I see it, is to be a catalyst—to stimulate those things that normally go on to go on faster. And to improve the educational level and understanding of the practicing physician by all available means, as I have already indicated.

How is this to be done? If there is a health power structure, which I deny, the best way to get the cooperation of physicians in this respect would be to stimulate strong support from the profession. This can be done because the profession will strongly support any measure that will improve the health care of the people of this country. But they will do so mainly through cooperation and coordination on a voluntary basis, not by coercion. This means the involvement of physicians at the local level, in professional societies, in hospital staffs,

and in other groups where physicians normally relate to one another in the professional activities they pursue.

I think we must maintain on a voluntary basis the unique American combination of multiple, independent focal points of activity and capacity that achieve a commodity that will attain our desired goal. In other words, we need diversity, we need regional involvement, we need cooperation. We need diversity so in the long run we will have the basis on which the practice of medicine can be improved steadily, particularly in relation to heart disease, cancer, stroke and other related diseases as they come into the program.

Many people in our society do not benefit from all that medicine has to offer. One important segment consists of those in the slums of urban and rural areas. We must make increasing efforts to bring to them the advances in the diagnosis, prevention and treatment of disease.

Let me point out that this is not just a medical problem. In fact, in many ways it is not a medical problem at all. It's a problem in which adequate housing, good food and jobs have to come first. People must have these things before they will want education and health care.

We need above all to avoid radical and rapid departures from our present system until by trial and experiment in certain areas, we can prove that such departures are worthwhile. Those who would totally disrupt our present health care system with the idea that it is all wrong, that it doesn't work, have yet to propose some other type of health care system that is better. The present one, with all its faults, is working and serving nearly two hundred million people.

One doesn't ordinarily consider it wise to undertake a radical new form of treatment for a disease unless the disease is apparently fatal and perhaps in its final stages. Until it is proved that a new method of treatment is helpful and relatively safe, it should not be widely applied. Similarly with respect to our health care system, it's important that we do not use radical procedures, that we avoid them until we have proved in certain test areas that some modification or some other system works better.

We must avoid national standards. We must avoid the impatient administrator with limited or great authority. We must avoid coercion. These do not work in the American system. For evidence of that, just go out to my home area of Berkeley.

It's important to recognize that much work needs to be done, that we cannot have instant success. You can't have an instant doctor, you can't have an instant health center or an instant community health center where one doesn't exist. What you are working on is a long-time program. You've got to give your successors twenty years hence some problems to challenge them. Don't try to settle them all now. If one will follow the route of normal progress, keeping in mind that regional, cooperative, voluntary advancement in the knowledge of the practicing physician is the key to the success of Regional Medical Programs, there is no question that Regional Medical Programs—ten, fifteen, twenty years from now—will succeed. I believe the Program will be a success. But it will be a much greater success if gentle keys are used in opening the doors to what someone has called "the Health Power Structure".

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Regional Medical Programs—An Assessment

STANLEY W. OLSON, M.D.
Bethesda, Maryland

EACH of the 55 Regional Medical Programs that now cover the country was faced in the beginning with the difficulty of judging how best to approach the complex task of achieving functional, voluntary regionalization in the provision of health care in its own Region, particularly as it applied to the diagnosis and treatment of heart disease, cancer and stroke.

The Division of Regional Medical Programs and its National Advisory Council wisely resisted the temptation to establish a model which could be adopted by the Regions for their planning purposes. The all-too-easy solutions offered by experts in systems analysis organizations were *also* rejected. Instead, leaders in each of the developing Regions began to cope with the unique relationships peculiar to their own area. Initial planning efforts were directed toward the creation of a climate of cooperation within which regionalization among traditional independent, autonomous elements of our pluralistic health care system could proceed.

It is possible now, after three years, to describe some of the locally derived features that characterize those Programs which are meeting with success in achieving regional objectives.

While it is true that no single Region has as yet achieved full regionalization, some are clearly more advanced than others. The success of the more advanced Regions can, I believe, be attributed largely to several significant and common characteristics—specifically, leadership by the Program Coordinator; commitment of health leaders; development of a strong Regional Advisory Group; sound program concept and design; effective implementation of program; and evaluation of progress.

Dr. Olson is Director, Regional Medical Programs Service, Health Services and Mental Health Administration, Health, Education and Welfare.

Leadership

The first of these critically important attributes is strong and dynamic leadership. Progress in regionalization frequently comes through the leadership of a single individual, the Program Coordinator. This is not to say that leadership must be "singular". Clearly, a larger leadership element than that of the Program Coordinator (or of any other single individual) is required, but the ability of the Coordinator to mobilize the larger leadership within the Region is often determinative of its success. He exercises personal leadership to secure organized institutional commitment, as well as individual support for Regional Medical Programs.

The effective coordinators secure the confidence, understanding and support of leaders in the medical schools and centers in their Regions as well as the practicing physicians and hospital administrators. They establish contacts with key Regional health leaders to evoke from them a working commitment for Regional Medical Programs. They acquire information of the health characteristics of the Region—its resources, its problems, its politics and its style of getting things accomplished.

The successful Coordinator exhibits his leadership by attracting a competent and respected staff. He develops an organizational framework to perform the functions of administrative planning, implementation and evaluation. His administrative and planning staff is diversified and includes physicians, nurses, hospital administrators, education

and public information specialists, allied health personnel, experts in behavioral sciences, and others. Such professional diversity among the staff contributes to a rounded and balanced program. The Coordinator typically is full time. Undertakings of the magnitude of Regional Medical Programs do not flourish under part-time leadership.

Commitment of Health Organizations

The successful Coordinator recognizes the critical elements in the health power structure and the order of priority in which they must be brought together and actively involved. The key groups with which he deals include the following:

Medical Centers and Medical Schools have provided much of the initial Program impetus. A close relationship between them and the Programs must continue because medical centers constitute a reservoir of professional expertise and competence that must be drawn upon for the transmission of new knowledge and techniques. They have considerable potential for serving as a "change agent" and they are a highly specialized resource for obtaining quality health care. This is not to say that medical schools or medical centers can or should control the program. To the contrary, exercise of control by this or by any other single institution or group will impede and retard the involvement and commitment of other key groups. But without medical school and medical center involvement and commitment, there is little chance that the Regional Medical Program can succeed.

Practicing physicians comprise another important group, and by extension, state medical societies and their component organizations. It is essential that practitioners be involved in Regional Medical Programs. Not only are they the first point of contact with the health care system, but many significant improvements in the quality of care and in the health status of a population can be achieved only through their direct efforts. But simply "involving" individual physicians is not enough. Organized medicine—state medical societies and their component organizations—must participate in the Regional Medical Program decision-making process. In terms of the health power structure, organized medicine represents the collective voice of physicians. We have seen instances where failure to involve these groups in decision-making has created serious obstacles to program advancement.

Hospitals are a third and important group. They represent the major institutional focus for health care in this country. Diagnosis and treatment are increasingly hospital-oriented and hospital-based. Moreover, the hospital represents an important interface with the community which surrounds it and represents both the providers and consumers of health care. The involvement and commitment of the hospitals, therefore, must be broadly structured to include the administration, medical staff, and trustees.

A fourth group is comprised of the various health agencies of the Region. It may be easy to overlook this group or to wait for them to ask to participate and then to expect from them only a nominal contribution. Such a policy is short-sighted and self-defeating. State and local public health agencies play a significant role in the provision of health care. No Region can afford to ignore or proceed without the understanding and backing of city and state health officers, many of whom have the ear of a Governor or a Mayor. Moreover, the statewide and areawide comprehensive health planning agencies, which will play an increasingly important role in planning for health care are by law related to state and local governments—often through their health departments. Voluntary health agencies such as heart associations and cancer societies have a substantial contribution to make. They have a community organization which can be a source of education, support, and leverage within the commu-

nity. This apparatus can be made available to Regional Medical Programs to sponsor training and to assist in other operational projects.

Regional Advisory Group

Public Law 89-239 established the Regional Advisory Group as an essential component of a Regional Medical Program and defined its responsibility in broad charter-like terms. Its primary function is to formulate policy.

Some Regional Medical Program sponsors, however, look upon the Regional Advisory Group as a body which is required by law but whose function is a nominal one—that of approving operational grant proposals. Sometimes it is looked upon as a force which threatens the role of the sponsoring organization. The fear may exist (although evidence to support this fear has been notably lacking) that Regional Advisory Groups may exceed the policy-making functions assigned them in the law and in the Guidelines, and seek administrative control of the Program.

We are pleased to note that most sponsoring organizations clearly recognize that the Regional Advisory Group must be the dominant organization expressing policy on behalf of all cooperating health interests in the Region. Ideally the sponsoring organization identifies its role as that of administrative trusteeship, which means that it exercises the obligations imposed upon it with respect to administrative matters, while at the same time encouraging the Regional Advisory Group to assume an ever more significant role in guiding and directing the policies to be followed as the Program develops.

It clearly takes time for Regional Advisory Groups to become organizationally mature, to come to grips with important policy problems, and to begin to resolve them wisely. Where Regional Advisory Groups are functioning actively, one finds they have a membership that comprises the leadership of the major health groups of the Region (i.e., medical schools, medical centers, practicing physicians, organized medicine, community hospitals, and other groups). Not only are they geographically representative, but they also include strong public representatives who have significant regional influence. Where they are exercising their full potential, the groups determine the overall scope, nature, and direction of the Regional Medical Program and establish priorities. They provide a forum for the forces of change as well as for the steadying influence of the traditional health groups. The most frustrating and perhaps the most destructive arrangement we observe is one in which the sponsoring organization appoints a Regional Advisory Group as required by law, but refuses to identify its role and neglects to take those steps necessary to transform a collection of individuals representing the various health interests into a strong functional unit which can indeed infuse into the Regional Medical Program that measure of support which can be obtained in no other way.

Program Concept

Another critical element characteristic of the more advanced Regional Medical Programs is the ability to formulate a sound program concept and design. This, too, is a derivative of the function of leadership.

A fundamental prerequisite to the elaboration of a specific strategic concept for the individual Region is a clear understanding of the role Regional Medical Programs are expected to play in establishing a more rational health care system in the United States. A Regional Medical Program is concerned with the improved health care and health status of individuals and its focus is on the patient. Although it is only one of a number of activities and forces with this long-range goal, it has as its direct target the upgrading of the skills and services of those who provide care. Categorically oriented, it has a strong technological bent

—the latest advances in heart disease, cancer, and stroke and related diseases. But it is also concerned with linking as well as strengthening health resources, a linkage which is the essence of regionalization. A Regional Medical Program requires a wholeness of program that cannot be achieved by an aggregation of loosely related projects. It fosters innovation and change, not in the relationship between physician and patient, but in the relationships among the many providers of health service.

Thus, Regional Medical Programs emerge on the American health scene as a voluntary mechanism that depends upon the organizational behavior of health-related institutions—a "coalition politics" of health, if you will. This is as much a part and parcel of Regional Medical Programs as is the substance of the information it relays concerning the latest advances in heart disease, cancer, and stroke.

Evaluation

Finally, in our consideration of the characteristics of successful Regions we come to the subject of evaluation. Adequate data is, of course, essential to proper evaluation. As noted before, we are badly handicapped by the lack of data concerning the quality of care. We suffer especially from a lack of data concerning the ambulatory care of patients. We are plagued, too, in evaluating Regional Medical Programs because we are not entirely sure what our "product" is.

If we are having difficulty in evaluating our efforts, we are surely not alone in this respect. Nor should we be prevented from moving forward simply because our evaluation techniques are not as clearly defined as we should like them to be. If one considers such a venerable social institution as education, we find that it has served us well for centuries even though many observers today believe it has a faulty evaluation system. Success in education has been judged by measuring the amount of retained knowledge. This way of measuring success has influenced teaching and learning techniques for a very long time. Those techniques are being changed as we begin to reach agreement that it is more important to judge the change in behavior of students than to measure the amount of knowledge that can be reproduced on an examination.

But the existence of difficulties and problems in no way minimizes the importance of evaluation for Regional Medical Programs. To the contrary, evaluation is critical to their effort and much more attention must be paid to it in the immediate years ahead.

The Future

Let us turn from what has been done and look to the future of Regional Medical Programs.

To begin with, we might look at the immediate future. Clearly, we are moving from a circumstance in which there has been a surplus of funds to one in which the reverse will be the case. Based on applications in hand, we can predict that the demand for grant funds from the 55 Regions will exceed our appropriations in both the current fiscal year and again in 1970 and even the amounts which the Review Committee and the National Advisory Council will recommend for approved activities will in all likelihood exceed available funds.

The effect of funding limitations on the development of Regional Medical Programs has been discussed fully by the National Advisory Council. The Council has indicated that applications will continue to be judged on the basis of quality. Inevitably, this policy will lead to a backlog of approved but unfunded applications. I know of no better way to bring the requirements for adequate funding to the attention of the members of the Congress than to present such a record. This is particularly necessary for this Program because, in the past, the Congress had expressed impatience with the slowness with which it has developed and with the disparity between the amounts of

funds authorized and appropriated and the amounts actually spent.

Our Programs have their primary impact on the providers of care rather than on the public directly. We must depend, therefore, on those individuals professionally involved in health care to interpret the success of Regional Medical Programs. They in turn must communicate to the people their understanding of the value of the Program.

We are only now beginning to see the results of our initial efforts over the past three years. The evidence we have of the validity of the Regional Medical Programs process must be used as "feed-back" into the system to guide further planning efforts. But the evidence must also be used to inform the groups most directly interested in Regional Medical Programs concerning its effect on health care. The Division's Office of Communications and Public Information serves to provide such information. I believe it accomplishes this purpose in an effective manner.

The scientific and technical thrust of Regional Medical Programs has recently been strengthened by a reorganization of the Public Health Services which combined the National Center for Chronic Disease Control with the Division of Regional Medical Programs into a new operating unit known as Regional Medical Programs Service.

The Chronic Disease Programs have provided technical assistance for bringing into wider use the benefits of clinical research in the following categorical areas: heart disease, stroke, cancer, chronic respiratory diseases, kidney disease, neurological and sensory diseases, diabetes, arthritis, nutrition, and health as related to smoking. Separately and collectively the thrust of these efforts has been on the development of capabilities for preventing and controlling these diseases, most of which have long-term disabling consequences.

The combined function of these two major organizations will enhance our capability for responding to requests from the several Regional Medical Programs for assistance in developing specific activities in the fields of heart disease, cancer, stroke and related diseases. A new emphasis can now be given to the preventive aspects of these disorders which will strengthen primary health care capabilities.

Regional Medical Programs have attracted the attention of a great many individuals and organizations interested in health care. In three and one-half years remarkable progress has been made in planning and establishing operational activities. We have learned a great deal about the process involved in regionalization and believe this new program fits well into our largely voluntary, pluralistic health care system. Regional Medical Programs will succeed if they can, indeed, strengthen and invigorate that system.

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The Virginia Regional Medical Program

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IN THE QUARTER CENTURY that has elapsed since World War II, medical science and the practice of medicine have undergone profound and rapid change. An explosive increase in scientific knowledge, constantly expanding socio-economic forces, and the expectations and demands of an increasingly well-informed citizenry have initiated major modifications in all aspects of the health sciences. These changes are especially noticeable in relation to programs involving research, education, training, and the delivery of health care. Various kinds of health legislation have both encouraged and reflected these changes. Public Law 89-239 creating the Regional Medical Program is of great significance to the medical profession, and an explanation of this program is given below.

Origin and Goals of Regional Medical Programs

The President's 1964 special health message to Congress called for the establishment of a Commission on Heart Disease, Cancer and Stroke "to recommend steps to reduce the incidence of these diseases through new knowledge and more complete utilization of the medical knowledge we already have". The commission's major recommendations formed the basis for the Heart Disease, Cancer, and Stroke Amendments of 1965 to the Public Health Service Act, officially known as Public Law 89-239. The basic premise underlying this legislation is that medical knowledge is expanding at an extremely rapid rate and consequently the latest advances in the diagnosis and treatment of these diseases are not being disseminated and applied uniformly throughout the country's health care system. In order to improve the availability and quality of health services, this law authorizes grants to assist in establishing and operating Regional Medical Programs.

Under Public Law 89-239, regions are permitted to define themselves within broad, general criteria and have been given considerable autonomy in planning and establishing their programs. Basic to the act is the philosophy that the planning of a Regional Medical Program can best be effected at the local level by those who are providing health care in the region, and who will be involved in implementing the program.

The goals of Regional Medical Programs are clearly outlined under Section 900 of Public Law 89-239, "Title IX—Education, Research, Training and Demonstrations in the fields of Heart Disease, Cancer, Stroke and Related Diseases".

Section 900. The purposes of this title are—

(a) "To encourage and assist in the establishment of regional cooperative arrangements among medical schools, research institutions, and hospitals for research and training (including continuing education) and for related demonstrations of patient care in the fields of heart disease, cancer, stroke, and related diseases.

(b) "To afford to the medical profession and the medical institutions (of the Region), through such cooperative arrangements, the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases; and

(c) "By these means, to improve generally the health manpower and facilities available (to the Region), and to

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> accomplish these ends without interfering with the patterns, or the methods of financing, or patient care or professional practice, or with the administration of hospitals, and in cooperation with practicing physicians, medical center officials, hospital administrators, and representatives from appropriate voluntary health agencies." [1]

The emphasis of the program is clearly on local initiative and local planning involving relevant health institutions, organizations and agencies of the region. The legislation is unusual in that it was purposely written in broad terms in order to provide flexibility for the regions to determine their own particular needs and devise their own appropriate solutions. A predominant feature is that the resources of medical school and/or medical centers be made available throughout the designated region.

The law defines a Regional Medical Program as a cooperative arrangement among a group of public and non-profit private institutions or agencies involved in research, education, diagnosis, and treatment concerned with heart disease, cancer, stroke, and related diseases. The planning and implementation of the program is done by the involved groups with the assistance of a full-time administrative and planning staff under the supervision of an advisory group. The law requires that this latter group must include practicing physicians, medical center officials, hospital administrators, representatives of appropriate medical societies, representatives of voluntary and governmental health agencies, and members of the public. The Regional Advisory Group reviews and approves all elements of the program in order to insure adherence to the Regional Medical Program Guidelines and responsiveness to existing needs of the area. Funds for the support of a Program are awarded by the Division of Regional Medical Programs when proper applications have been approved and submitted by the Regional Advisory Group, and after they have been reviewed and approved by the National Advisory Council on Regional Medical Programs.

It should be noted that the Regional Medical Program by law is designed as essentially categorical. However, it is recognized that some apparently non-categorical projects overlap, and are necessary to the implementation of the basic goals. If these projects are so recognized by the various committees and given a high priority rating by the Governor's Regional Advisory Group, they will be developed and submitted to the Division of Regional Medical Programs for approval and funding.

The Virginia Regional Medical Program

Shortly after the approval of Public Law 89-239, the Governor of Virginia appointed a 14 member Governor's Regional Advisory Group representative of community and State interests. This group, under the Chairmanship of the State Health Commissioner, coordinated the development of an application for planning funds, which resulted in an initial planning grant in January, 1967, to establish a Regional Medical Program to cover the State of Virginia.

In July, 1967, a Director of the Program was appointed and an interim office set up in Richmond. Permanent headquarters were acquired in 1968, and the recruitment and employment of an administrative and planning staff were undertaken. Various Advisory Committees were organized and studies were begun regarding the improvement of patient care in Virginia.

Initial activities centered on an informational program designed to reach physicians, dentists, nurses, allied health professionals, and the public. Informational activities consisted of staff visits throughout the State with physicians, dentists, nurses, hospital administrators, allied health personnel and others; the widespread distribution of brochures and other communications; the sponsorship of a Statewide workshop; staff

attendance and participation in various professional meetings; articles published in professional publications; and utilization of the public press.

In January, 1969, a supplemental planning grant was awarded to the Virginia Regional Medical Program in order that the identified needs might be clearly defined, and that future studies, planning and organization might be undertaken.

In March, 1969, the Governor of Virginia appointed nine additional members to the Governor's Regional Advisory Group, which brings the total present RAG membership to 20 members, consisting of eight physicians and dentists, three medical center officials, one nurse, two hospital administrators, and six public members. One of the physicians and one public member also represent health agencies.

In February, 1969, the Governor's Regional Advisory Group approved By-Laws for the operation of the Program, authorizing the establishment of four standing advisory committees on Heart Disease, Cancer, Stroke and Related Diseases. Membership on the standing committees consists of physicians, nurses, dentists, allied health personnel, health agency representatives, hospital administrators, and public members. From the beginning, the experience of the Virginia Regional Medical Program has been characterized by the enthusiastic cooperation of an expanding number of participants, and a widespread willingness by both professionals and non-professionals to contribute generously of time and effort in developing the program. In addition, committee members have provided an informed liaison with the health groups they represent, and have assisted community and other health planning groups in understanding the role of the Regional Medical Program. Members of the various committees are listed at the end of this article.

Strategy of the Virginia Regional Medical Program

National Guidelines dictate that Regional Medical Programs must function within the framework of broad program goals. This requires that a region must continually set operational objectives for the resolving of area needs in an orderly and related manner. The strategy of the Virginia Regional Medical Program can be stated in three short paragraphs as follows:

1. The overall goal of the Virginia Regional Medical Program is *improved patient care* through continuous upgrading of the knowledge and skills of physicians, dentists, nurses, and allied health professionals so that the latest and best in modern medical care for heart disease, cancer, stroke, and related diseases is available to all the people of Virginia.

2. The objective of improved patient care is to be achieved by establishing voluntary *cooperative arrangements* among the medical schools and/or medical centers with the practicing physicians, dentists, nurses, and allied health professionals, *primarily* through programs of *continuing education.*

3. The mechanism of cooperative arrangements and the essence of the Regional Medical Program concept is the *linkage* of patient care with health research and education involving the full array of available health resources and personnel on a statewide basis to provide a mutually beneficial interaction.

General Goals

General goals applicable to all the categorical areas of heart disease, cancer, stroke, and related diseases are listed below:

1. Public education programs in cooperation with the State Health Department, the various voluntary agencies, and others relative to prevention, early detection, diagnosis, treatment, continuing care, and rehabilitation.
2. Improvement in areas of prevention,

early diagnosis, treatment, continuing care, and rehabilitation by encouraging expanded facilities and upgrading the knowledge and skills of doctors, dentists, nurses, and allied health professionals.

Specific Goals

Specific goals for the various categorical diseases relative to the initial thrust of the program are outlined below.

Heart Disease Goals

1. Since coronary care units reduce mortality from myocardial infarction 25% to 30%, efforts should be made to encourage establishment of such units so that no citizen of Virginia is farther than 50 miles from a coronary care unit.
2. Set up programs of training and education for doctors and nurses relative to caring for patients in coronary care units.
3. Establish a program for the evaluation of coronary care units and the results of treatment in such units.
4. Educational programs for doctors, dentists, and allied health professionals to upgrade their knowledge and skills in various ways as follows:

    (a) Post graduate education in cardiology by means of short intensive courses for both specialist and general practice participants.
    (b) Estabishment of task-oriented programs, for example, short term training in electrocardiography.
    (c) Courses for nurses relative to comprehensive nursing care for heart patients.

5. Development, in cooperation with the Virginia Heart Association, of a hospital based statewide training program in cardiopulmonary resuscitation for doctors, dentists, nurses, allied health professionals, and other selected personnel.
6. Pilot project to study various aspects of hypertension at the community level.
7. Establishment of telephone consultation centers in medical schools and/or medical centers relative to heart disease.
8. Screening programs for hypertension in conjunction with the stroke program.

Cancer Goals

1. Educational programs for doctors, dentists, nurses, and allied health professionals to upgrade their knowledge and skills as follows:

    (a) Establishment of cancer chemotherapy programs in community hospitals.
    (b) By making telephone consultation services readily available.
    (c) Postgraduate education in clinical oncology by means of short, intensive courses for both specialist and general practice participants. Such courses would not make the participants complete oncologists, but they would bring additional knowledge to community hospitals, and establish rapport between the medical center oncologists and the practicing physician to exchange patients for care as the condition of the patient permitted.
    (d) Establishment of task-oriented programs, for example, short-term training in proctosigmoidoscopy.
    (e) Courses for nurses relative to comprehensive nursing care for cancer patients.

2. Establishment of a statewide patient-

oriented computerized tumor registry.
3. Encouragement of Cancer Programs in community hospitals as outlined by the American College of Surgeons Commission on Cancer. Smaller hospitals might be assisted by multidisciplinary team visits from medical schools and/or medical centers.

Stroke Goals

1. Informational programs directed to doctors, dentists, allied health professionals, and the public to create an awareness that stroke is not a hopeless condition, and that it is possible for the stroke patient to be studied in depth and treated with beneficial results.
2. Establishment of model stroke program demonstrations in medical schools and/or medical centers.
3. Establishment of local stroke programs:

   (a) In community hospitals, and
   (b) With individual doctors or groups in rural areas.

4. Encouragement of expanded facilities for rehabilitation and nursing, and improved education and training of necessary personnel in rehabilitation procedures.
5. Establishment of a statewide patient-oriented computerized stroke registry, and standardized forms for stroke patients.
6. Stroke prevention methods to locate high risk patients, for example, those with hypertension, and screening for hypertension in conjunction with the heart program.
7. Information programs for the families of stroke victims.
8. Pilot projects for individuals and/or multidisciplinary teams for rehabilitation of stroke patients.

Related Disease Goals

This committee is just getting organized, and objectives have not been designated.

Implementation

In order to begin implementation of the Goals as set forth by the various committees and approved by the Regional Medical Program Advisory Group, seven (7) projects have recently been proposed for funding, and submitted to the Division of Regional Medical Programs. A brief description of each follows:

Heart

Myocardial Infarction Care

Develop, staff, and operate a project at at a medical center to cooperate with community hospitals in establishing units to provide intensive care for coronary patients, particularly by providing training for physicians and nurses in treatment of myocardial infarction and by consultative service and retraining in newer advances.

Evaluation of Coronary Care in the Region

Provide evaluation of coronary care by analysis of operations of intensive cardiac care units in a group of participating hospitals in the region. Utilize automatic data storage and retrieval facilities at a medical center to reveal clinical patterns and improve management by education of physicians and nurses in current cardiologic techniques.

Cardiopulmonary Resuscitation Training

Organize and administer training of hospital staffs, community medical personnel, and rescue personnel in closed chest cardiopulmonary resuscitation (CPR) as an emergency procedure. Use community hospitals as sites for

training programs; establish and maintain standards of training and retraining.

Stroke

Management in a Rural Community

Demonstrate that interchange between a medical center and health personnel in a rural community can improve management of stroke. Involve personnel in team effort and exchange of knowledge.

Model Unit and Training

Establish at a medical center a five bed unit equipped to demonstrate care of stroke patients, and as a training facility for physicians, nurses, physical therapists and others. Train by formal instruction and experience. Retrain and update by annual conferences, and provide consultative assistance in establishing and maintaining units in community hospitals.

General

Health Sciences Information System

Organize a network for interchange of health sciences information by expanding library services at medical schools and supplying information through community hospitals to practicing health professionals.

Multiphasic Screening Model

The primary objective of this project is to develop and operate a model system of early disease detection which would demonstrate, stimulate, and assist in the more effective application of new disease detection methods throughout the State.

Current Activities

Five workshop sessions relative to nursing activities in Regional Medical Programs were held during August in various sections of the State. Comprehensive educational programs in the categorical areas in response to needs as expressed by nurses are being developed for submission to the Division of Regional Medical Programs in December, 1969.

Work is progressing on a patient-oriented computerized tumor registry pilot project for six hospitals, which will be extended to other hospitals pending training of personnel and a year's operational experience. A program to establish education programs in cancer chemotherapy for physicians in community hospitals is also being developed.

A relationship has been established with the State Dental Society, and educational activities related to heart disease, cancer, and stroke are being explored.

A survey of existing facilities and manpower has been done, and will be published as this article goes to press.

Conclusion

The foregoing represents a brief account of the origins and goals of the Regional Medical Program, and the strategy and progress of the Program in Virginia.

The introduction of a new concept is never easy. And the implementation of a new program involving the federal government with diverse groups in a voluntary cooperative effort presents many problems. However, progress is being made, and there is growing realization that success of the program requires continuing cooperation of all members of the State's health professions and institutions, and not just a medical school, a committee, or a State society.

In his Health and Education message of March, 1966, the President stated:

> "The focus of our efforts is the individual and his family, living in their own community. To meet their health needs requires the cooperation of many agencies, institutions, and experts—of State and local government, of doctors, nurses, and paramedical personnel".[2]

All of the projects involve many individuals and groups, have been developed cooperatively, and are statewide in application. They fulfill the overall goals of the Virginia Regional Medical Program as outlined above, and their implementation should appreciably improve patient care.

The cooperation of all concerned in bringing the program to its present stage of development clearly reveals the ability of Virginia's doctors, dentists, nurses, and allied health professionals to meet the challenge to the Regional Medical Program as outlined above in the President's statement.

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Director, Medical School Library
University of Virginia School of Medicine
Charlottesville

Dr. William F. Peach
Neurosurgeon, Newport News

Mrs. Elizabeth Ryan
Nurse, Richmond

Dr. John C. Watson
Internal Cardiovascular Medicine
Alexandria

Dr. Fred Wellman
Associate Director
Department of Community Colleges
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Standing Committee on Related Diseases

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Professor and Dean, School of Pharmacy
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Deane Beamer, Administrator
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Dr. Herbert Boyd
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Dr. John C. Buchanan
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The Developing Relationship Between the Two Virginia Medical Schools and the Virginia Regional Medical Program

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PRIOR TO OCTOBER, 1965, when President Johnson signed Public Law 89-239, the Heart Disease, Cancer and Stroke Amendments to the Public Health Service Act authorizing grants to establish Regional Medical Programs, administrative leaders in the two Virginia medical schools had become personnally active and involved in this concept in both planning, and in a consultive capacity, testifying before Committees in Congress, relative to the development of this program. Drs. Thomas H. Hunter and Kenneth R. Crispell of the School of Medicine, University of Virginia, and Dr. Kinloch Nelson of the Medical College of Virginia envisioned the potential impact of the program as recommended to the President by his Commission on Heart Disease, Cancer, and Stroke on the various health professionals of the Commonwealth of Virginia, and most significantly on the citizens of the region. The professional educational administrative leaders of the two medical schools were definitely attuned to the potential of the region to be subsequently identified as the State of Virginia, and personally and through their various staffs had a realistic understanding of the problems of the area to which the Regional Medical Program was categorically designed to rectify.

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Dr. Neal is Assistant Dean, School of Medicine, Medical College of Virginia, Health Sciences Division, Virginia Commonwealth University.

The two Institutions were following the bill through the two legislative branches of the federal government, and as early as March, 1965, representatives of the two medical schools, The Medical Society of Virginia and the State Health Department met to discuss the report of the President's Commission on Heart Disease, Cancer and Stroke, known as the DeBakey Report. Involved in early meetings regarding this were Drs. McLemore Birdsong, Murray R. Blair, Jr., Kenneth R. Crispell, Thomas H. Hunter, Kinloch Nelson, Mack I. Shanholtz, R. Blackwell Smith, Jr., and Mr. C. P. Cardwell, Jr., and Mr. John M. Stacey. Following initial discussions between the two medical schools and the State Health Department, it became desirable that representatives from the Norfolk area should be included. Dr. Mason C. Andrews and Mr. Toy D. Savage, Jr., represented that area of the Commonwealth of Virginia in subsequent early discussions. Following the enactment of the program, a formalized group representing the medical schools, practicing physicians, and the lay public was subsequently formed by appointment of Governor Albertis Harrison. On the Executive Committee of this group were the Dean's of the two medical schools, Dr. Kinloch Nelson of the Medical College of Virginia, and Dr. Kenneth R. Crispell of the University of Virginia, along with Mr. William H. Flannagan, Director of the Roanoke Memorial Hospital, Dr. William C. Hagood

of Clover, and Mr. Sol Rawls of Franklin. Prior to Dr. Eugene Perez being appointed as permanent coordinator-director of the program, Dr. Kinloch Nelson served in the official capacity as program coordinator and the University of Virginia was the fiscal agent for the newly formed Virginia Regional Medical Program.

Through the formative period there have been "growing pains" and although no operational grants have been awarded the Virginia Regional Medical Program, definitive benefits brought about by the VRMP are demonstrable. Communications and dialogue already have been established, or enhanced between the practicing physicians and health professionals in the academic or major medical centers. It has been stated that the Regional Medical Program is an instrument of change! It is indeed obvious to note that thought, imagination, and innovation have been developed in Virginia within the concepts of the Regional Medical Program from both small rural communities, community hospitals, and various medical centers. In an understandable recognition of the heavy impact of the Regional Medical Program as applied to continuing education, both State Medical Centers have designated medical school liaison officers to the Virginia Regional Medical Program—both of whom are assistant deans for continuing education in the respective schools of medicine (Dr. William B. Hunt, Jr., University of Virginia, and Dr. M. Pinson Neal, Jr., Medical College of Virginia).

Committees were formed at each of the two medical schools, composed of faculty members who not only had expertise in the field of Heart Disease, Cancer, and Stroke, but had as well, an interest in devising ways in which the Virginia communities could improve the care of patients with these categorical diseases. Members of the medical school Regional Medical Program Committees also served as members, and at times, Chairmen of various Task Forces set up by the administrative offices of the Virginia Regional Medical Program. The Task Forces, more recently identified as Standing Committees, were designed to study the needs of the State, to encourage the submission of community related plans to meet these needs, and at the same time, offer informed opinions as to the feasibility of the study in terms of scientific and economic priorities. In addition to the formal commitment to committees, either at the Institution, or for the Regional Medical Program, other faculty members with special training or interest serve in an advisory capacity to specific problems of the Regional Medical Program. They also are offered the opportunity to identify needs within the State, and if confirmed by the practicing physician, see if an attempt to develop a specific grant proposal can be generated to assist in such problems. Therefore, in addition to the administrative and advisory liaison, both medical schools and their respective health complexes have provided consultants of various types to the Virginia Regional Medical Program. The demands on the two medical school faculties and facilities will undoubtedly increase. At present, Dr. Hunt and Dr. Neal serve as Chairmen of the Regional Medical Committee for their medical schools, as well as coordinating efforts of the medical schools with the Virginia Regional Medical Program.

After the selection of Dr. Eugene Perez, Coordinator-Director of the Virginia Regional Medical Program, those faculty members and members of the administrative staff of the medical schools involved initially with the program were then able to devote their time more specifically to the design and implementation of individual projects involved in helping to improve the medical care in the State.

It has been stated throughout the entire United States that as a result of the Regional Medical Programs, people from different disciplines and areas of interest have finally sat down together and talked about community medical care problems for the first time.

This is not only true for the various people in the community who are involved with health care, but the same concept applies to both the administrative officers and the faculties of the two medical schools. Despite the number of meetings that allowed discussion of mutual problems by community physicians, officers of The Medical Society of Virginia, the two medical schools, and the State Health Department, it became evident that closer cooperation was needed between the two medical schools. In many instances, project development by the two medical schools was found to involve duplication of effort, and even some projects in which the directors attempted cooperative efforts in the development of joint projects, both problems of administrative and conceptual nature continued to occur.

Because of the identification of areas of mutual concern, and the desire to effectively and efficiently attack the problems within the State, as a direct offshoot of the Virginia Regional Medical Program, an Inter-University Committee on Medical Information and Communication (ICMIC) was formed. Serving on this Committee representing the Medical College of Virginia, more specifically the Health Sciences Division of Virginia Commonwealth University, has been Acting Provost Col. John Heil, Jr., Dean Kinloch Nelson, M.D., Associate Dean Paul Doolan, M.D., and Assistant Dean M. Pinson Neal, Jr., M.D.; the University of Virginia has been represented by Chancellor for Medical Affairs Thomas H. Hunter, M.D., Alden R. Kuhlthau, Associate Provost for Research, Associate Dean J. Edward Wood, III, M.D., and Assistant Dean William B. Hunt, Jr., M.D. An initial effort of this Committee was a review and discussion of the project proposal for a statewide medical communications network involving the libraries of the two medical schools and cooperating community hospitals throughout the State. Under active consideration of this Committee, at the present time, has been joint medical school efforts in the allied health education field, the potential relationship between the medical schools and the developing community college system, and other numerous matters involving projects, or potential projects, which require discussion and clarification by the administrative officers of the two Institutions.

The majority of the grants that have received local, Virginia Regional Medical Program interest and encouragement, have represented a "centrifugal effort". That is, actions to a large extent originating at the medical centers, but through cooperative efforts, radiate outward. These actions can be defined as medical achievements which are concentrated in centers of study, practice and research. The fundamental objective, however, through these coordinated efforts involving the respective medical centers, the community, and the practicing physicians is obviously to achieve the best possible health care for every citizen of the Commonwealth of Virginia, even in the smallest community. To achieve this goal, in addition to attempt to increase the supply of health personnel for the State of Virginia, a major thrust derived from the Virginia Regional Medical Program as visualized by the respective medical schools is to afford expanded opportunities for continuing education for physicians and allied health personnel. In the initial legislation of Public Law 89-239 this was spelled out, and has been re-emphasized repeatedly by those at the National and State levels of administration of the Regional Medical Program. However, the approach for continuing education must be expanded above and beyond what has been considered traditional and acceptable. A significant degree of imagination and innovation must be applied! Representatives of both of the academic institutions, as well as others in medical centers throughout the State are looking for approaches that will move the health personnel of the Commonwealth of Virginia in a step by step logical path toward a rational system of improved, continuing education. In ac-

cepting and supporting the concept that continuing medical education is important, one must realize that continuing medical education is perhaps the best way to provide for constant improvement in medical care and to improve the capabalities of the practitioner (the two are inseparable). Continuing education offers the greatest potential for the rapid and continued maintenance of professional competence and allows the practitioners to keep abreast of current developments.

Another profound reason to extol the importance of continuing medical education is the recognition of the practical need to involve a major portion of the total health personnel resources of the State of Virginia, as well as the nation. The majority of the health professionals now desire and feel it mandatory that they be involved in continuing professional education. Yet in years just past, with the more traditional forms of continuing medical education, in some areas no more than ten percent of the practicing physicians were being reached.

In response to this challenge, the Departments of Continuing Education at the two medical schools, as well as the other health professional schools of the State adhere to the fundamental concept that education programs must be based in and integrated with the practice of the professional; the educational needs of the practitioner must be met; the content and procedures of the educational program must be determined by a systemic inquiry into the practitioners knowledge, skills, and attitudes; and that the system must be professionally "owned and operated". The latter component is extremely important, in that the educational scheme that is not controlled by the profession, impact a threat to the professional; physicians as members of the trusted profession must be willing to dedicate, rather than delegate, control of this system of continuing medical education. In efforts to achieve the objectives of continuing medical education as defined above, as well as to improve patient care throughout the State, several major thrusts have been proposed to the Virginia Regional Medical Program through joint collaborative efforts of the two medical schools in coordination with the practicing physicians, State Medical Society, various voluntary health agencies, and the State Health Department.

The role of the two medical schools in the State of Virginia in relationship to the Virginia Regional Medical Program is continually being redefined as statewide health needs become evident through investigation, research, and planning with community leaders. The two medical schools have traditionally served several functions in the past:

1. The education of medical students
2. The graduate education of physicians (house officer training)
3. Continuing education for the physicians and health personnel in the State by a variety of educational offerings
4. The development and evaluation of advanced and innovative concepts in patient care through research and special care units

In the past, these multiple areas of medical interest plus ancillary programs such as the development of medical libraries, medical laboratories, etc., have been pursued by the two medical schools somewhat independently. The Virginia Regional Medical Program has established as its major goal, improved care of the patient through the establishment of cooperative arrangements among all involved with the health care delivery system. As a result of planning sessions between the medical schools and the Virginia Regional Medical Program, changes are beginning to take place. Closer cooperation in the scheduling and planning of institutional efforts are beginning to occur. The combined plans to aid community Coronary Care Units through personnel training, and evaluation of treatment results is a prime example of such endeavors. Coop-

erative efforts in cancer chemotherapy will provide physician and nurse training for community hospital cancer clinic units. The combined efforts of the two schools should soon extend the educational influence and the medical communication capabilities of the two medical school libraries outside the walls of the Institutions as well as out of the book shelves into the community hospital facilities. These plans include training of community hospital librarians, as well as the mechanisms that can lead to rapid transmission of information from the medical center to the community. Other cooperative efforts include developing programs for: the diagnosis, management, and rehabilitation of the stroke patient in a small community; a pilot "stroke" unit for the diagnosis, management, and rehabilitation of the stroke patient in the major medical center; an updated and more sophisticated tumor registry with hospital and doctor feedback; and a pilot model for a multiphasic screening unit to be utilized for the training of personnel to operate other units, and to demonstrate the potential of such multiphasic screening to the health professionals of the State of Virginia.

The primary functions of the medical schools to the Virginia Regional Medical Program will most likely continue to be in the following categories:

Consultative—a traditional role of providing expert help where needed, when requested.

Resources for Special Projects—These would include, in addition to the schools of medicine, the Schools of Allied Health (Hospital Administration, Physical Therapy, etc.); the Graduate School of Business Administration; the Computer Centers; the Departments of Preventive Medicine, Bio-Medical Engineering, Bio-Physics, Radiation Physics, and many others.

Base for Demonstration Projects—Certain projects need precise monitoring and techniques of evaluation, requiring short-term intensive use. Then, if the degree of practicality, efficiency, effectiveness, and economics can be proven within a relatively short period of time, the project can be recommended for a widespread use according to its merits, or discarded.

Within the goals of the Regional Medical Program as defined under Section 900 of Public Law 89-239, the two medical schools of the State have committed themselves to supporting this legislation, and particularly exert every effort to encourage and assist in the establishment of regional cooperative arrangements between the two medical schools, the medical profession, and other medical institutions of the region to afford an opportunity to make available to all practicing health professionals the latest knowledge in the diagnosis and treatment of the categorical diseases so that their patients may benefit from this knowledge through this new medium of communication and continuing education. As never before, the two medical schools and the communities of the State of Virginia, through the leadership and direction offered by the Virginia Regional Medical Program, are discussing their common goal—the improvement of patient care! Through such means, it is hoped and anticipated there will be a demonstrable improvement in the health of the citizens of the Commonwealth of Virginia, and there will be a general improvement in the capabilities of health manpower and facilities of the region.

The Opportunity Offered by Regional Medical Programs

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DURING THE ORGANIZATION OF the Regional Medical Program in Virginia it was very apparent that The Medical Society of Virginia should play an important role in its activities now and in the future. It may be worthwhile to state why this was believed to be true.

When the hearings before Congress took place to consider the DeBakey report, which resulted in Legislation establishing Regional Medical Programs, there were many physicians in the United States who expressed opposition to the ideas expressed. As a result of these hearings, the final Legislation specified that the Program should be limited to continuing education for physicians to upgrade the quality of patient care for those suffering from diseases of the heart, cancer, stroke and related diseases.

Since the Governor of Virginia appointed an Advisory Committee to implement the Program in Virginia, it seemed important that the following ought to be the direction from the start:

1. That the physicians of Virginia should have a major part in deciding what type of continuing education would be most valuable;

2. That whenever possible the educational effort should be carried out in locations easily accessible to the practicing physician;

3. That courses be given at the two medical schools when instruction in local communities is impractical for various reasons.

As the Virginia Regional Medical Program becomes operational, it is gratifying to know that the above procedures are being carried out.

In the past five years considerable discussion has taken place in meetings of members of the medical examining boards of the various states relative to the quality of medical care in the United States. There are some members of these boards who believe that the physicians should be re-examined periodically before his license to practice is renewed. Others, with equal conviction, believe that physicians should be required to attend a prescribed number of hours of continuing education each year to be relicensed. The implication of such ideas should be apparent to all physicians.

If State Medical Societies are really to play an important role in the future patterns of health care, the way they can contribute the most is to maintain high ethical and quality standards of medical practice. This is indeed what they have attempted to do in the past so there is certainly nothing new in this.

However, the vehicle to accomplish those two basic aims is in part provided by Regional Medical Programs. The physicians of Virginia can and will have a good Program and they and their patients will certainly profit thereby.

Dr. Murrell is Past President, The Medical Society of Virginia.

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Clinicopathological Conference . . . .

Intestinal Obstruction in Newborn

Edited by—

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DISCUSSANTS:

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Clinical History

A 5-day-old male infant was admitted to the Staff Pediatric Surgical Service of the Medical College of Virginia on 5/5/65, because of abdominal distention and vomiting. The infant was born at term from a Gravida VIII, Para VII, 35-year-old mother whose previous children were alive and well. The present pregnancy, labor and delivery were normal. The infant had vomited all feedings since birth, and the vomitus was bile-stained. There had been no stools since birth.

Physical Examination: This was a seven-pound newborn appearing lethargic and dehydrated, with marked abdominal distention. Examination of the ears, nose, throat and neck was negative. The lungs were clear to auscultation. The heart sounds were normal and normal sinus rhythm and no murmurs. The abdomen was markedly distended and tympanitic, but compressible, without evidence of tenderness or masses. Ano-rectal examination demonstrated a normally located anus, and the examining finger could be passed to the sacrum. The rectum appeared small and unused, and no meconium was present in the rectum or on the examining finger.

Laboratory Data: Hemoglobin 18 gm%, hematocrit 50%, BUN 83 mg%, sodium 166 mEq/l and the chlorides were 110 mEq/l.

Chest x-ray was normal except for moderate elevation of the diaphragms. Flat and upright films of the abdomen demonstrated "marked gaseous distention of bowel loops". A barium enema showed a large bowel obstruction in the region of the mid-transverse colon.

After adequate preoperative hydration, and on the evening of admission, exploratory laparotomy was done. The peritoneal cavity was contaminated with meconium. The cecum was in the left upper quadrant. The right transverse colon ended in a blind loop and was markedly thinned and dilated, and had no connection with a normal appearing left transverse colon and descending colon. A perforation of cecum was present. Resection of the dilated colon proximal to the atresia was done and a terminal ileostomy constructed.

The postoperative course was benign. The distal colon was dilated with enemas during the postoperative period, and on the 13th of May, 1965, an ileo-transverse colostomy and gastrostomy were performed. Fourteen days later, the gastrostomy was removed and the patient discharged.

The discharge diagnosis was atresia of the right transverse colon with perforation of the cecum and gangrene of the ascending colon.

The child was seen in the Emergency Room in September, 1965, with a three-day history of abdominal distention and vomiting. On physical examination at that time, the infant weighed 8 lb. 4 oz. and appeared to be acutely ill. The abdomen was distended and generalized tenderness was present. There were high pitched hyperactive bowel sounds. Rectal examination was negative, and following this examina-

tion, the infant passed light brown, pasty and watery stools.

The hemoglobin was normal, BUN 71 mg%, a CO_2 combining power of 11 mEq/l, and a sodium of 126 mEq/l.

Intravenous fluids were administered. A barium enema was done on the evening of admission and it was noted that the barium flowed readily through the previous anastomosis.

Abdominal distention was managed rather readily with naso-gastric suction, nothing by mouth and rectal irrigations, and the abdomen soon assumed a more normal contour.

After total hydration and decompression had been accomplished, an operation was performed.

Clinical Discussion

Dr. Samuel Schuster: When Dr. Salzberg wrote and sent this CPC to me, he said this is absolutely nothing to be concerned about because our sophomore medical students made the diagnosis. I have been trying to find a sophomore medical student ever since!

I will discuss what I think are some of the more important features in this protocol and we recall that this infant was born at term, presumably not a premature infant, from a Gravida VIII mother. This obviously was an older mother, 35 years of age, and one must consider some of the problem in children of older parents. The child was vomiting. With an older parent, one must consider the possibility of this child having mongolism and the frequent occurrence of duodenal stenosis or duodenal atresia with mongolism. There has been no mention made of this as a possibility and I assume that this child did not have mongolism or Down's syndrome and I hope you will correct me at this point if I am wrong.

The other consideration in this family history is that the other siblings were all alive and well. I beieve this is important particularly in view of the fact that there were seven siblings since we must consider in the differential diagnosis in this patient the possibility of cystic fibrosis with meconium ileus as the causative agent of this baby's intestinal obstruction. I would anticipate that in a family with seven other siblings that there would be some difficulty in terms of cystic fibrosis and some of the symptoms associated with this in at least one or more of the other children in this family. That does not necessarily have to be true, but certainly statistically I would expect this to be true. That would then move meconium ileus, cystic fibrosis or the problems associated with it down on the list of diagnostic possibilities.

It would be interesting to note whether this child had an exchange transfusion. I ask that question because one of the other things that we must consider in this youngster is the possibility that this child had necrotizing entero-colitis. Necrotizing entero-colitis is a condition wherein newborns have marked abdominal distention with apparent evidence of intestinal obstruction with no real mechanical site of obstruction. The x-ray films may show a uniform or disparitous density and some of these children will indeed have perforation of the bowel with pneumoperitoneum. In our experience and in talking to other people around the country, we are beginning to recognize the fact that many of these children with necrotizing entero-colitis appear with these symptoms following one or more exchange transfusion. The etiology of this is unknown, but there has been some suggestion that perhaps this is an antigen-antibody type reaction which occurs within the blood vessels of the bowel wall leading to necrosis and perforation. But there was no exchange transfusion here. We must not, however, exclude this as a possibility yet.

The infant had vomited all feedings since birth and the fact that this baby was vomiting immediately following birth suggests to me that perhaps there is a high intestinal obstruction. Very often children or newborns who have intestinal obstruction of the

ileum or large intestine will not begin vomiting immediately following birth. One cannot rule that out, but on the other hand, those who vomit very quickly are those who usually have a higher intestinal obstruction.

The vomiting was bile-stained. This simply means that the obstruction was some place distal to the ampulla of Vater. There had been no stools since birth. I think that is a significant feature. It may mean that the child has an atresia of the bowel and there simply has never been any meconium distal to the site of this artesia or it may mean that the child has some kind of a low intestinal obstruction such as Hirschsprung's disease wherein there could not be any stool passed because of the physiology of the disease.

The child was lethargic and dehydrated with marked abdominal distention. I think that as we look at the initial chemistries a little later on, we can probably explain them on the basis of dehydration.

The physical examination again makes no mention of the fact that this child had abnormal facies, or that there was anything to suggest mongolism, so I assume this was not a mongoloid youngster.

The abdomen was markedly distended and I assume diffusely distended and this distention was not limited to the upper portion of the abdomen as one would expect with duodenal atresia, stenosis or mal-rotation associated with intestinal obstruction. This was a diffuse distention which is more likely to occur with an obstruction which is lower down. There were no masses palpable.

The ano-rectal examination was normal. There is no meconium present in the rectum or on the examining finger. This can mean that there is an atresia, or it can mean that this is a youngster with Hirschsprung's disease and that one has not with the examining finger been able to get above the aganglionic segment. When we are talking about atresias and the fact that sometimes there is no meconium distal to the site of the atresia, we have to remember that there are indeed two different kinds of atresia, and in a sense they are both congenital in nature. The atresia which occurs as a developmental problem and which occurs very early in fetal development is a kind of atresia in which one would not expect any meconium to be present distal to the atresia. Then there is the atresia which occurs as a result of some kind of an intra-uterine accident. The evidence is accumulating that this is very often due to some kind of an intra-uterine vascular accident that occurs sometime during the development of this youngster beyond the 11th or 12th week of gestation when bile and lanugo begin passing through the bowel. This atresia is a kind of intra-uterine acquired atresia because these babies do have meconium distal to the site of the atresia and the atresia is secondary to an accident which has occurred during pregnancy. But there was no meconium present in this youngster.

Now again the electrolytes to me in this youngster suggest dehydration. I wonder if we could see the x-rays at this time, Dr. Howell.

Dr. Talmadge Howell: This is the admission x-ray of the lungs which are well-expanded and clear. The heart is normal sized. There is not much evidence for thymus in this child. The abdominal film shows that there is marked distention of the total abdominal cavity with what appears to be gas inside the intestines predominately. There is free air in the peritoneal cavity as well. You do see some outline of the bowel wall and also possibly the spleen outlined.

In the barium enema examination there is retrograde fill of the colon to near the splenic flexure where it is abruptly terminated. There is evidence for a small amount of debris within this microcolon. This is the configuration of total occlusion of the lumen and this would not be what you would expect to see with a meconium plug. (Fig. 1)

Dr. Schuster: Thank you. The x-rays at

this point simply tell us that there is an obstruction of the transverse colon. It does not look like a meconium ileus. It is suggested that there is a complete mechanical obstruction at this point. It is also suggested that there is perhaps some stool in the distal micro-colon. That would indicate that perhaps there is some kind of an atresia present and if there is, indeed, meconium present distal to the site of this atresia, then something probably has occurred in intra-uterine life to cause this atresia. And what might it be? Perhaps this is a vascular accident or perhaps this baby does indeed have cystic fibrosis.

We do know that a significant number of those patients we see in the newborn



Fig. 1. Barium enema examination at first hospital admission.

period with atresia of the intestine (usually of the small intestine), who at the time of operation have evidence of inflammation and adhesions within the peritoneal cavity, are very often patients who have cystic fibrosis. During their intra-uterine life these infants had a diapedesis, if you will, of some of this thick viscus meconium through the wall of the bowel and have had some vascular problem associated with it. They then get an intra-uterine perforation with meconium peritonitis and a secondary atresia with the adhesions which are formed. That is something we have to seriously consider in this youngster. To this point, we have obstruction of the large intestine—possibly the result of some problem in intra-uterine life.

At operation, a large bowel obstruction was found and the peritoneal cavity was contaminated with meconium but this was presumably fairly recent although nothing is said about old adhesions being present or evidence of more remote inflammation in the abdominal cavity. This then was a fairly recent perforation with pneumoperitoneum and with a necrotic ascending colon. The remainder of the colon looked quite good insofar as consistency of the bowel was concerned. Was this a colitis type of picture?

Dr. Salzberg: No colitis was present.

Dr. Schuster: The other feature seen at surgery was a markedly thinned, proximal blind end which may or may not have any significance. Most patients with Hirschprung's disease have a thickened bowel wall but we usually don't see this in association with atresia so I don't think that necessarily has any relevance in this situation. I would be interested in knowing whether or not the specimen which was resected had any ganglion cells.

Dr. Frable: Yes, it did.

Dr. Schuster: It did have ganglion cells. Right up to the point of perforation?

Dr. Frable: It had ganglion cells at the point of atresia all the way back as far as the cecum.

Dr. Schuster: This child then had a postoperative course which was benign and he had an ileo-transverse colostomy done of the 13th of May and the patient was apparently discharged having had no difficulties following that, stooling well and having no problems. Is that correct?

Dr. Salzberg: That is correct.

Dr. Schuster: The discharge diagnosis was atresia of the right transverse colon with perforation of the cecum and gangrene of the ascending colon. Incidentally, we might also mention that there was evidence of mal-rotation. The cecum was in the left upper quadrant and I am assuming that there was no evidence at that time of any obstruction of the duodenum or proximally.

Dr. Salzberg: That is correct.

Dr. Schuster: The child was seen in the emergency room in September, 1965, with vomiting again and abdominal distention and hyperactive bowel sounds. The rectal examination was negative. I am always a little curious about these negative rectal examinations. I assume that when one put his finger into the rectum, nothing much was obtained except that later on he passed a little bit of light brown, pastey, watery stool, but he had no other stool prior to the time that enemas were given.

The hemoglobin was normal. BUN 71 mg%; CO_2 combining power normal. Another operation was done after this baby was decompressed with enemas and with naso-gastric suction. That fact that you can decompress this baby and improve his condition simply by means of enemas, rectal tubes and nasogastric suction within a fairly short period of time leads me to believe that there is some kind of a physiological obstructive problem present in this youngster. In addition, there is another barium enema during which barium got through the anastomosis without any difficulties.

Would you like to show us those?

Dr. Howell: This is the second admission abdominal film just to show that there was considerable distention of the intestine was gas. Some of this is large bowel. There was no evidence of any free air and there wasn't a large amount of feces evident.

The barium enema examination shows that there was easy retrograde fill of the colon. I do not see any reflux into the small bowel but I am certain from the configuration of the filled colon that there is gas-filled small bowel. There is again no evidence of free air. (Fig. 2)



Fig. 2. Barium enema examination on second hospital admission.

Dr. Schuster: Can I ask you a question about the last film? Was that a dilated part of the colon off to the left side or is that two loops?

Dr. Howell: That is two loops, one is superimposed upon the other; one being well filled with contrast, coming around, and then looping back headed towards the right lower quadrant. That is, in fact, dilated colon, some filled with contrast, some filled with air.

A lateral view demonstrates a very smoothly outlined bowel mucosa. The colon is quite large in caliber. The last film shows the colon when the enema tip was removed and evacuation had occurred.

Dr. Schuster: Now how long after evacuation was that last film taken.

Dr. Howell: This is immediately following the barium enema.

Dr. Schuster: That was evacuation by means of the enema tip or after the enema tip was removed?

Dr. Howell: That information I do not have available. The principle practice at that time was to remove the enema tip and let the patient evacuate. As to whether this was actually done on this particular patient, I cannot tell you.

Dr. Schuster: You don't have a late film to see how well this baby evacuated this barium?

Dr. Howell: I do have those films.

Dr. Schuster: May I see them?

Dr. Howell: This film is taken at 24 hours, demonstrating a large amount of colon debris, and feces intersperced with the barium that has been retained at 24 hours. (Fig. 3)

Dr. Schuster: Thank you. We then have a youngster who is obviously not emptying his large intestine. His obstruction is based on the fact that he appears to have a physiological or, if you will, low intestinal obstruction. It does not appear to be a mechanical obstruction. Did you ever do an iontophoresis, a sweat test, on this baby?

Dr. Salzberg: No.

Dr. Schuster: We then are left with the possibility that this baby had several problems and I would list the diagnoses in the following order in this youngster. I believe this baby had mal-rotation; obviously he had atresia of the colon, I don't know whether this was a secondary intra-uterine kind of atresia or not, simply atresia of the colon; perforation of the cecum; and Hirschsprung's disease with an aganglionic segment distal to the site of the atresia.

Thank you.

Pathological Discussion

Dr. William J. Frable: I think Dr. Schuster has analyzed this case quite correctly. This child has two problems. The first one, taken care of shortly after birth, was a primary atresia of the transverse colon. The transverse colon ended in a fibrous cord near



Fig. 3. Abdominal film 24 hours after barium enema examination seen in Figure 2.

the splenic flexure and this was removed along with the ascending colon and the cecum. There was a perforation and necrosis of the ascending colon and as indicated earlier, there were ganglion cells in this entire portion of large bowel.

The second operation was a rectal biopsy. No ganglion cells were found between the muscle layers but some hypertrophy of the nerves within Auerbach's plexus were seen.

The aganglionic segment apparently began approximately two inches beyond the splenic flexure of the colon and extended

down as far as the rectum in this child. In Hirschsprung's disease or aganglionic megacolon, the distal segment which is the aganglionic segment appears normal or small. It is actually the dilated proximal segment which is the normal part of the bowel because it does have ganglion cells and peristalsis does occur to the beginning of the aganglionic segment. In the long-standing neglected case, dilatation of the colon will involve the aganglionic segment simply due to pressure. At surgery this has to be kept in mind to find the proximal point of aganglionosis. In the early case, normal bowel with ganglion cells may not be dilated up to the point of aganglionosis.

Atresias of the colon are certainly not common. Gross in his report of 211 children operated upon for intestinal obstruction found six cases of atresia of the colon.[1] The most common site of atresia is in the ileum. A third of the patients in the series reported by Gross did have atresia of the ileum and this was two times as common as the next most common site which was the duodenum.

In Hirschsprung's disease, there is a considerable male preponderance of patients varying anywhere from 9:1 to 3:1 in Madsen's series which is one of the lowest reported ratio of males to females.[2] It is as yet unclear whether Hirschsprung's disease is a congenital or familial disease. There is an entity called "aganglionic long segment disease" involving the colon, the entire small bowel extending up into the stomach and also producing megalo-ureter which is definitely a familial disease. The incidence of Hirschsprung's disease is approximately 1 in 3,000 births.

Dr. Salzberg: You have just heard an old pro discuss a very unusual problem. The first instance of colon atresia associated with Hirschsprung's disease was reported in Surgery three months ago.[3] This patient did not survive. The patient presented today is the first patient with the combination of colon atresia and Hirschsprung's disease who has survived.

Dr. Schuster at the Children's Hospital in Boston with the most magnificent experience in the world has yet to find an instance of this problem. He would like very much to bring you up-to-date on the experience at the Children's on colon atresia.

Dr. Schuster: Since the series that Dr. Gross reported—he reported six—we have had nine other colonic atresias for a total of 15. The interesting thing about our colonic atresias is that they are very rarely associated with other anomolies as compared with atresias of the duodenum or upper jejunum, and they are disseminated throughout the large bowel. As Dr. Salzberg has said, we have not seen colonic atresia combined with Hirschsprung's disease.

I think you are to be congratulated on having this baby come through this unscathed and probably he will do very well. I would be very curious to know whether or not there was any evidence of thrombosis in the mesentery associated with this atresia.

Dr. Salzberg: We didn't make this observation. In your instances of colon atresia, was meconium present on rectal examination?

Dr. Schuster: No, there was no meconium present on rectal examination in ours.

Dr. Salzberg: You would think that this combination of no other anomolies would lead one to believe that these have occurred after four and a half to five months of fetal life.

Dr. Schuster: You would think so, but on the other hand, so many that we see, that do have meconium distal to the site of the atresia, have other evidence in the abdomen of some accident which has occurred and this is most striking in those patients that we see with cystic fibrosis that have one or multiple atresias associated with it.

I thank you for the opportunity of discussing this.

Final Anatomical Diagnosis

1. *Atresia of the colon.*
2. *Hirschsprung's Disease of the distal colon.*

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Longevity Dips in 1968

(Reprinted from the Richmond News Leader.)

The average length of life (expectancy of life at birth) in the United States was 70.1 years in 1968, according to preliminary data compiled by the Statistical Bureau of the Metropolitan Life Insurance Company. This was 0.4 years below the all-time high recorded in 1967. The 1968 setback resulted primarily from the unusually high prevalence of Asian influenza and other acute respiratory infections during the early and late months of the year. Even so, the 1968 experience was more favorable than that for any year prior to 1961, the expectation of life at birth at present being two years greater than in 1949-51 and 21 years above that around 1900. Over a century ago, in 1850, the average lifetime was approximately 41 years—less than three-fifths the current figure.

Despite the very limited gains in longevity during recent years, the long-term improvement has been impressive, particularly at the childhood and early adult ages. Since 1900-02 over 12 years have been added to the expectation of life at age 5, and almost nine years at age 25. Although the improvement lessens with advance in age, even at the 45th birthday the average remaining lifetime has increased by almost five years. However, at age 65 the expected remaining lifetime has been extended by less than three years; in 1968, this figure for all persons was 14.6 years.

The current mortality and longevity record of the United States population reflects largely our high living standards and the outstanding advances in medical science, sanitation, and public health administration. This is in sharp contrast to conditions prevailing a century ago, when the death toll was extremely heavy among infants and young children. In 1850, for example, a fourth of the newborn died before age 5. Even under mortality conditions prevailing around 1900, the number of newborn was expected to be reduced by a quarter in the first 25 years of life; but three fourth of the babies born today can expect to reach their 62d birthday.

Substantial improvement is shown for recent generations in the age to which one half of the newborn survive. By way of example, around the middle of the last century one half of the babies could look forward to celebrating their 45th birthday. For the babies born around the turn of the century the age to which one half could expect to survive advanced to 58 years. By 1940 half of the newborn had a life expectancy of almost 70 newborn may expect to live 74 years. The years. At the present time one half of the advance in the age at which the survivors from birth are likely to be reduced by three quarters has been more modest—an increase of only 11 years over the figure for those children born around 1850. Nevertheless, one fourth of the babies born last year have prospects of living 83 years, even if there are no further declines in mortality during their lifetime.

(Statistical Bulletin, March 1969, Metropolitan Life Insurance Company)

Cancer Trends . . . .

JAY Y. GILLENWATER, M.D.

Edited by—

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Testicular Neoplasms

Testicular malignancies are the most common tumors in the young adult male. The incidence of testicular tumor is 1:100,000 and approximately 1% of all male cancer deaths result from this tumor. The testicular tumors usually are classified into nongerminal cell tumors and germinal cell tumors. The nongerminal cell tumors comprise only 3.5% of the testicular tumors. They are classified as: (1) interstitial (Leydig) cell tumors; (2) sertoli-cell tumors; (3) supportive tissue tumors (sarcoma and lymphosarcoma); and (4) secondary tumors of testis (lymphoma). The interstitial cell tumors may be malignant (1.5%), may cause gynecomastia (40%), or macrogenitosomia. The sertoli-cell tumors occur in all ages, usually are not malignant, and have no gynecomastia. The patients with lymphomas of the testis usually die from generalized lymphoma within two years.

The germinal cell testis tumors are classified into: (1) seminoma; (2) embryonal cell carcinoma; (3) teratoma; (4) teratocarcinoma; and (5) choriocarcinoma (Fig. 1). Testicular tumors may be mixed and have combinations of any of the different tumors. As shown in Table I, seminoma is the most common testicular tumor with embryonal cell carcinoma second, tertoma and teratocarcinoma third, and choriocarcinoma occurring only rarely. The testicular tumors usually are staged with Stage A confined to the testis or adnexa, Stage B involving the regional lymphatics, and Stage C having distant dissemination. The accuracy

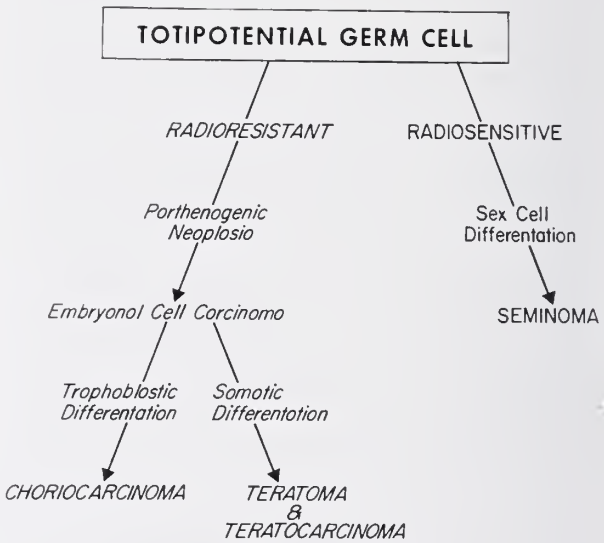


Fig. 1. Classification of germinal testicular neoplasms.

in preoperative staging has been approximately 60%.

Eighty-five percent of testicular tumors were reported by Patton[1] to have a positive Aschheim-Zondek test. However, this assay measures both (FSH) follicle stimulating hormone and luteinizing gonadotrophin. If only human chorionic gonadotrophin (lu-

TABLE I

INCIDENCE AND SURVIVAL STATISTICS OF TESTICULAR TUMORS

Types of Tumor	*Incidence Percent*	*5-Year Survival Percent*
Seminoma	41	92
Embryonal Carcinoma	30	72
Teratoma	9	86
Teratocarcinoma	19	61
Choriocarcinoma	1	? (rare)

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Sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.

teinizing) is measured, it is elevated in 8-13% of seminomas, 25% of embryonal cell, and 100% of pure carcinomas.[2] The continued elevation of hormone activity after orchiectomy suggests residual tumor. Gynecomastia may be found in all types of testicular tumors and has no prognostic importance. The cause of gynecomastia with testicular tumors is unknown but is believed to result from increased estrogens, possibly from breakdown of testosterone. The gynecomastia may regress after excision of the tumor. The undescended testis has 20-40 times higher incidence of malignancy than the normal testis, and orchiopexy after the age of seven does not prevent this higher incidence of malignancy. Statistically, however, the incidence of malignancy in a single undescended testis is low (0.8%) but orchiopexy solely to prevent cancer probably is justified. If one undescended testis has a malignancy, there is a 25% incidence of cancer in the other undescended testis, and bilateral orchiectomy is justified.

Testicular neoplasms often are diagnosed too late because of few symptoms. They usually present with progressive enlargement, hardness, dull ache, or signs and symptoms of metastasis (backache, gastrointestinal or chest symptoms). The diagnosis depends upon careful bimanual examination of the scrotal contents. The testicular tumor can be distinguished by the hardness and heaviness of the mass. The examiner must be suspicious of tumor if: (1) there is unilateral increase in size; (2) stretching of scrotal skin; (3) heaviness of testis; (4) nodularity; or (5) palpable abdominal masses. The differential diagnosis usually is between the following: (1) epididymitis; (2) hydrocele; (3) spermatocele; (4) varicocele; (5) gumma; (6) testicular infarct; (7) hematocele; (8) torsion. Epididymitis is the entity most frequently confused with testicular tumor. In acute epididymitis, there usually is pain and tenderness. Pyuria and moderate fever commonly are associated with epididymitis, and the vas deferens and spermatic cord usually will be indurated, enlarged, and tender. Hydrocele of the tunica vaginalis is the most common single swelling within the scrotum and usually is easily recognized by its cystic consistency and the use of transillumination of light.

The natural history of testicular neoplasms commonly demonstrates a short course with no spontaneous regressions reported. The tumors usually spread by the lymphatic to the aortic nodes around the renal vascular pedicle or by vascular dissemination. The inguinal lymph nodes are involved only if there has been previous inguinal or scrotal surgery or if the tumor has extended into the scrotal structures. The patient having a testicular mass should be given a thorough physical examination, have a complete history taken, and have chest x-ray and intravenous urography to rule out metastasis to the chest or retroperitoneal nodes. Twenty-four hour urines should be collected for chorionic gonadotrophins prior to surgery. Because of the danger of seeding tumor cells, needle biopsy should never be performed. Once the tunica albuginea of the testis is opened, there is frequent extension of the tumor into the scrotum. The primary treatment should consist of orchiectomy with removal of the cord structures to the internal inguinal ring. Survival with orchiectomy alone is only 15%.

Postoperatively, the most important factor is arriving at an accurate pathological diagnosis to determine the direction of further treatment. If the chorionic gonadotrophin titers are elevated preoperatively, they should be repeated postoperatively. A persistent elevation of the chorionic gonadotrophins certainly is indicative of residual tumor. Inferior venacovography and bilateral lymphangiograms have been useful to determine whether retroperitoneal nodes are involved with metastatic cancer.

The treatment of testicular tumors at The University of Virginia is outlined in Figure 2. Seminomas which are Stage A and

Stage B all are treated with irradiation of the pelvic and paraortic lymph nodes using a moderate dose (3,000-3,500 rads). Some radiotherapists also use irradiation to the mediastinum and supraclavicular region for Stage A and Stage B seminomas. Stage C seminomas are treated with irradiation and chemotherapy (chlorambucil and actinomycin D). Embryonal carcinoma, teratoma, teratocarcinoma, and choriocarcinomas are treated with a bilateral retroperitoneal radiation program at the University of Virginia now employs a linear accelerator which has definite advantages over cobalt-60, better sparing of normal tissues, better defined beam, more ability to treat these larger areas in one field without the dangers of overlaps and gaps in treatment seen with the multiple fields. In a large series of patients with metastatic testicular neoplasms treated with chemotherapy at Memorial Hospital in New York,[4,5] objective improve-

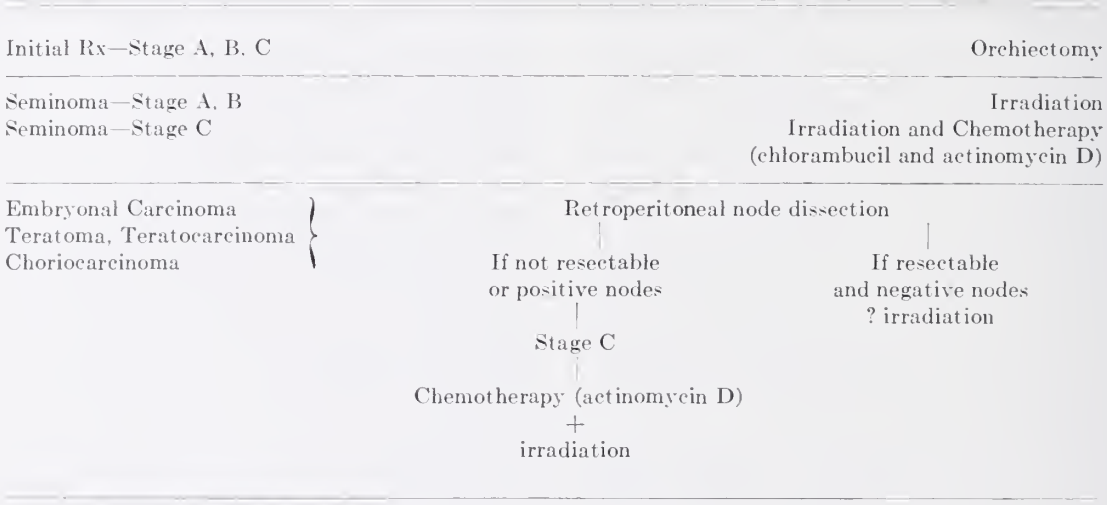


Fig. 2.—Scheme of management of germinal testicular neoplasms.

node dissection through a midline incision if no evidence of pulmonary metastasis is present. If the resected retroperitoneal nodes are negative, postoperative irradiation is advocated, since Ekman and associates[3] reported that 13 of 32 patients with negative nodes developed metastases subsequent to the operative treatment. Patients with embryonal carcinoma receive 3,500 rads, and teratoma patients receive 4,500 rads. If the resected nodes are positive or the retroperitoneal nodes are not resectable, these patients receive irradiation and chemotherapy (actinomycin D). We have not administered chemotherapy and radiotherapy concurrently because radiotherapy is less effective due to the reduction of dose and prolonged period of time required to give it. In our institution, chemotherapy usually is employed following radiotherapy. The ment was seen in 50% and roughly 10% of patients had elimination of all evidence of disease.

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Comment

A testicular mass demands a prompt diagnosis in view of the relative lack of symptoms in those patients that are amenable to curative treatment. It was certainly clear from Dr. Gillenwater's discussion that clinical staging and accurate pathologic determination of the cell type of the malignant tumor are essential to the most effective therapy. Although the excellent response of seminoma to irradiation has been known for years, the advances in the treatment of the more advanced seminomas and the other cell types of malignant testicular tumors are really encouraging. Dr. Gillenwater has outlined an orderly approach to this somewhat complex problem, and the effectiveness of combined therapy utilizing various combinations of surgery, irradiation, and chemotherapy, is well demonstrated by the overall five-year results presented.

This is one tumor that we should be able to diagnose at the time of routine physical examination and thereby contribute to an improvement in the excellent cure rates quoted!

THE EDITORS

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Aug. 1969	Aug. 1968	Jan.-Aug. 1969	Jan.-Aug. 1968
Brucellosis	2	2	30	32
Diphtheria	—	—	—	—
Hepatitis	46	38	288	302
Meningitis (aseptic)	5	43	11	77
Meningococcal Infections	1	5	52	34
Poliomyelitis	—	—	—	—
Rocky Mt. Spotted Fever	10	13	53	38
Rubella	53	34	1614	582
Rubeola	11	7	675	300
Streptococcal Sore Throat & Scarlet Fever	558	803	10185	9714
Tularemia	—	1	4	2
Typhoid	—	1	—	8
Rabies in animals	21	13	309	103
Venereal Disease:				
Syphilis	93	137	938	1137
Gonorrhea	1251	988	8043	6480
Other	6	1	32	10

Diagnostic Laboratory Medicine....

A. M. PEREZ, M.D.

Antinuclear Antibiotics and Lupus Erythematosus (LE) Cell Test

Patients with systemic lupus erythematosus (SLE) have many antibodies to cellular and subcellular material. The most useful for diagnostic purposes are those against nucleoprotein, deoxyribonucleic acid (DNA) and ribonucleic acid (RNA); the antibody against DNA probably being the most important and specific.[1] It is currently believed that only the antinucleoprotein antibody is capable of inducing the LE cell phenomenon.[2] Although the biological significance of antinuclear factors is not yet clear, their diagnostic value has been generally accepted.

The antinuclear serum reactions have become increasingly more valuable as a basis for diagnostic tests. During the past few years a number of investigators have followed the course of patients with symptoms and signs suggesting SLE, who initially demonstrated antinuclear factors in the absence of the LE cell phenomenon. It has been found that most of these individuals subsequently developed the full clinical criteria for the diagnosis of SLE, as well as the LE cell phenomenon.[1] The antinuclear antibody tests are useful for the diagnosis of SLE as well as other autoimmune disorders, but their sensitivity and specificity cannot be compared between laboratories since there are no standard reagents or test sera to serve as controls. Consequently, each laboratory must conduct its own control studies on the incidence of positive tests in various disorders and the relationship of the test results to the activity of SLE.

Several serological antinuclear antibody methods, such as the antiglobulin-consumption and the fluorescent antinuclear staining tests, and the commercially available latex-nucleoprotein technique are currently available.

The antiglobulin-consumption test, in which isolated cell nuclei are used as nuclear antigen, is a sensitive method for detecting antibodies reacting with nuclear material. Antinuclear antibodies are detected by determining whether the amount of antiglobulin consumed exceeds that obtained with normal serum. Since this is a delicate procedure, its use is rather limited. The positivity of the antiglobulin-consumption test correlates well with the clinical activity of SLE. In most patients, the degree of antiglobulin-consumption diminishes rapidly with treatment and clinical improvement.[1] The test is positive in 20 to 25% of patients with systemic scleroderma and 33% of patients with dermatomyositis. It is also positive in 7% of patients with chronic discoid lupus erythematosus, 10 to 30% of patients with severe hypersensitivity reactions and in rare patients with necrotizing bacterial infections, metastatic disease and Sjogren's syndrome.[1]

Fluorescent-antinuclear (FAN) staining is technically easier to perform than the antiglobulin-consumption test for the detection of antinuclear factors, but there is no "standard" method for performing this test.[3] In addition, there is no agreement as to the most reliable antigen, whether or not the test serum should be absorbed, which washing solution is most satisfactory, or numerous other aspects of the procedure. The interpretation of the test depends upon the degree of nuclear fluorescence which may appear with normal serum. With most SLE sera, this fluorescence is so strong that the significance of the result appears unquestionable. Positive results with the

fluorescent-antinuclear staining test have been reported not only for SLE, but also in the following conditions: rheumatoid arthritis, systemic scleroderma, dermatomyositis, discoid lupus erythematosus and Sjogren's syndrome. The incidence for rheumatoid arthritis was 20 to 25%, but for the other conditions, it was extremely low and inconsistent.[1] The significance of results obtained using antinuclear staining is controversial. It is not known whether a reactive result means that the patient's serum contains an antibody which produces tissue injury, or if this is an incidental finding that may be unrelated to any cause or effect of the process in autoimmune disease.[3] The question arises as to whether the test might eventually be used routinely for autoimmune diseases in general, or only for SLE and rheumatoid arthritis.

The Hyland LE test (standardized using polystyrene latex particles coated with deoxyribonucleoprotein), which is commonly used, gives reliable results when positive, but is frequently negative in serum producing the LE cell. For example, of 154 individuals with SLE only 79 (51%) had positive LE cell tests. The latex agglutination reaction on the same specimen was positive in only 24 of these 79 cases. Thus, it was positive in only 30% of individuals with LE cells.[1]

The LE cells may be observed in several closely related disorders, most commonly in SLE, rheumatoid arthritis, scleroderma, and lupoid hepatitis. They have been reported in infections and certain drug reactions such as those due to hydralazine, hydantoins, trimethadione, sulfonamides, and procainamide.[4] Analysis of these cases has shown that the majority have an underlying lupus diathesis. When medication was involved, and it was discontinued, frequently improvement of the disease followed temporarily, but the long-term progression of an SLE-like syndrome was not prevented.[1]

Recently, the occurrence of positive LE cell test in 10 women who had taken oral contraceptives has been reported.[5] None had a history of rheumatoid arthritis or drug hypersensitivity. When the pills were discontinued the LE cell test became negative in five to eight weeks. It is too early to say whether or not this was a temporary regression. Two of these patients had positive LE cell tests six to nine weeks after they had resumed taking the oral contraceptives. This might suggest hypersensitivity to the drug or awakening of a dormant collagen disorder.

The LE cell test should not be repeated more often than at three-week intervals because the LE cell factor, on which the phenomenon depends, gradually changes over a period of several weeks. If the diagnosis is strongly suspected, it may be repeated sooner. Since the antibody responsible for LE cells is antinucleoprotein, results from tests for the detection of this antibody can be used to evaluate the significance of suspicious LE cells.

One advantage of the serological antinuclear antibody tests is that they are more objective than the LE cell method; therefore, few equivocal results are obtained. On the other hand, even with reliable methods, antinucleoprotein and anti-DNA antibodies may be absent in the presence of positive or suspicious LE cell preparations; therefore, both the Hyland LE and the LE cell techniques are of value when done concurrently.

Summary

The value of the tests currently available for the diagnosis of SLE has been discussed. In terms of sensitivity, the LE cell test is more useful than the antiglobulin-consumption, the fluorescent antinuclear (FAN) staining, and the Hyland LE tests. Of the serological tests, the Hyland LE test has been most widely used. The FAN test has not been standardized, and the antiglobulin-consumption test is not specific. In terms of specificity, the Hyland LE test is the most useful, but lacking in sensitivity.

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Two-Year Medical Assistant Curriculum Approved

Essentials of an accredited educational program for medical assistants received unanimous approval of the American Medical Association's House of Delegates at its July meeting in New York. This achievement marks the beginning of approved schools in medical assisting.

Established by the AMA's Council on Medical Education in collaboration with the American Association of Medical Assistants, the essentials will serve as a guide for the development of effective educational programs for medical assistants.

The essentials recommend that the two-year program be broad in scope, "providing a basic understanding of medicine, some acquaintance with clinical work, familiarity with medical ethics and law, and a comprehensive knowledge of how to operate a doctor's office efficiently and successfully." It suggests that the training should aim at developing adeptness in promoting good relations with patients and the public at large, and a capability for calm and reasoned judgments in meeting emergencies.

The basic curriculum is based on the AAMA certification study outline. Topics include anatomy and physiology; medical terminology; medical law, ethics, and economics; psychology; administrative and clinical procedures; and a basic knowledge of the purpose and technique of laboratory procedures commonly performed in the physicians' office. A review and rotation sequence of practical experience in offices of qualified physicians or in accredited hospitals selected by the educational institution is also recommended.

While it will be several months before the AMA-AAMA team begins to evaluate schools, applications are being accepted by the AMA's Department of Allied Medical Professions and Services.

Mental Health....

JAMES B. FUNKHOUSER, M.D.
EDNA M. LANTZ

A Progress Report on Aftercare

"The Queen went so fast that it was all Alice could do to keep up with her; and still the Queen kept crying, 'Faster! Faster!'. . .

"The most curious part of the thing was that the trees and other things round them never changed their places at all; however fast they went they never seemed to pass anything. . .

"Suddenly, just as Alice was getting quite exhausted, they stopped, and she found herself sitting on the ground, breathless and giddy.

"Alice looked round her in great surprise. 'Why, I do believe we've been under this tree the whole time! Everything's just as it was!'

" 'Of course it is,' said the Queen. 'What would you have it?'

" 'Well in our country,' said Alice, still panting a little, 'you'd generally get to somewhere else—if you ran very fast for a long time, as we've been doing.'

" 'A slow sort of country!' said the Queen. 'Now, here you see, it takes all the running you can do to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!' "

—From Lewis Carroll's "Alice Through The Looking Glass"

The Aftercare Program in Virginia is doing a little better than Alice, if we interpret the statistics correctly.

Aftercare, through a growing network of local mental hygiene clinics, has been available to patients provisionally discharged from State Mental Hospitals for more than a quarter of a century. Such patients have been variously referred to as on "furlough," "trial visit" and, since the Revision of Title 37.1 by the 1968 General Assembly, "convalescent leave". Their numbers have been relatively small until recent years. This was due to treatment methods at our hospitals and the lack of coverage throughout the State by appropriate clinical facilities.

Before the extensive use of modern psychotropic drugs in the mid-1950s, the majority of patients released from psychiatric hospitals had to be sufficiently improved to regain their place in society with minimal medical supervision. Since the advent of the drugs, however, an increasing number of patients were found to require a decreasing term of prolonged hospitalization. However, after release from a hospital on convalescent leave such patients required continued medical supervision to a greater extent than formerly. The need rapidly grew for an expanded, state-wide system for the provision of aftercare services.

Recognizing this need, the Department of Mental Hygiene and Hospitals began working with the State Department of Health whose services blanket the State. A pilot program was established in Southwest Virginia involving one State Hospital and a single local Public Health District. The program was designed to investigate the feasibility of utilizing Public Health Officers and Nurses, appropriately indoctrinated, to assist in the maintenance of patients on convalescent leave in their home surroundings. The success of this program led eventually to the establishment in 1966 of a formal state-wide program using existing mental hygiene clinics, special aftercare

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

clinics under the Department of Mental Hygiene and Hospitals and the facilities of local Public Health Departments. To date, through the enthusiastic cooperation of the State Health Department, almost all public health districts have initiated mental aftercare programs. In virtually every area of Virginia a released patient may, if medically indicated, be referred to a local service for maintenance care.

A recent examination of the annual summary of the hospitals' statistics is encouraging. For example, comparison of the numbers of patients on convalescent leave as of June 30, 1968, and June 30, 1969, shows a net increase of 373. Total resident patients decreased by a total of 72. During the cited fiscal year there was an increase in admissions of 837 patients over the preceding year.

Statisticians utilize a formula for evaluation of patient movement in and out of mental hospitals called a "Net Release Rate". This represents the total number of patients released on convalescent leave, plus direct discharges, less returns from convalescent leave rated against the average daily hospital population during a given period. In Virginia this net release rate for the fiscal year 1968-69 improved from 54.2 to 64.1. This increase in rate of 10 compares to experience of increases of 3 to 4 in previous years. While relatively small, when it is realized that the rate is based on a hospital population slightly in excess of 11,000 patients, the number effectively released during the period is not inconsiderable. Since treatment modalities and other factors have remained essentially unchanged during the year cited, the authors attribute a part of the improved net release rate to the improvement of aftercare services at the local level.

Table No. 1 is a comparison of the caseload handled by public health facilities during the same reporting period. This is a preliminary report. It can be seen that the number of patients receiving aftercare in the Health Department has doubled in a year's time. Significant figures are those showing the number of "admitted" and "closed" cases during the year because they indicate that the program does not consist merely of a slow accretion of patients.

TABLE No. 1

AFTERCARE PATIENTS SEEN BY LOCAL PUBLIC HEALTH CLINICS

	June 30, 1968 Active	*Admitted*	*Closed*	*June 30, 1969 Active*
Eastern State Hospital	37	64	19	82
Western State Hospital	275	465	231	509
Central State Hospital	364	479	159	666
Southwestern State Hospital	274	583	189	668
Other State Hospitals	14	18	5	27
Total	946	1,609	603	1,952

Table No. 2 on special aftercare clinics operated by the Department of Mental Hygiene and Hospitals in Henrico and Norfolk does not show such a dramatic increase. However, they have been in operation for several years and the program has been operating at nearly maximum efficiency for some time.

TABLE No. 2

AFTERCARE PATIENTS SEEN IN SPECIAL CLINICS

Henrico	84	49	—	133
Norfolk				
Eastern	234	148	66	316
Central	354	269	68	555
Total	672	466	134	1,005
GRAND TOTAL	1,618	2,070	737	2,956

Statistics for the mental hygiene clinics' participation in the aftercare program are not available at this time.

Although the effective release rate is relatively small and the decrease in resident population less than might be desired, when it is taken into consideration that the admission rate is up by approximately 11.6%, Virginia seems to be moving slowly forward by running very fast. As our cooperative aftercare program becomes more efficacious, it is expected that we may someday outrace Alice and the Queen.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Shellfish Sanitation Program—New Regulations

Traditionally, September is the beginning of the oyster season in Virginia, which normally runs through March or April each year. During the fall months when the salty water over the growing beds begins to cool and the air takes on a crispness, the demand for succulent Chesapeake Bay oysters and clams increases, reaching a peak around Thanksgiving and Christmas. Shellfish production in Virginia is a vital part of the State's economy. Virginia has long been one of the leading producers of shellfish in the United States. The 1968 production was 11,730,818 pounds, having a dockside value of $8,556,022.

Oysters as a food have a special public health significance. They have been found capable of transmitting such diseases as typhoid, cholera, gastroenteritis and infectious hepatitis to man.

In the years 1924-25 a series of outbreaks of typhoid fever occurring in Chicago, New York, Washington, and several other cities were attributed to sewage-polluted oysters. Consequently, to reestablish public confidence in raw, fresh shellfish as food, state and local health authorities and shellfish producers requested the Public Health Service to exercise supervision over the sanitary control of shellfish shipped in interstate commerce. As a result, a unique cooperative program for the sanitary control of growing, harvesting and processing of shellfish within the United States was started. This program, administered jointly by the Public Health Service, the individual states and the industry, is still in existence today—the National Shellfish Sanitation Program—after 44 years of successful operation. Basically, the state shellfish regulatory authorities promulgate the requirements which must be met by the industry. The industry, in turn, carries out the state requirements in regard to sanitary harvesting and processing of shellfish. The Public Health Service then evaluates and endorses or declines endorsement of the state's control program and the extent of compliance. Endorsement is withheld until an 80 percentile compliance is attained. Virginia's current evaluation rating for the 1968-69 season is 98.3%. The Public Health Service furnishes a list of dealers so certified for national and international distribution to assist regulatory agencies in their control programs.

Responsibility for the shellfish sanitation program in Virginia is invested in the Virginia State Department of Health and the Marine Resources Commission. Primarily, the Health Department is charged with the regulation of the growing areas concerning their acceptability for the direct marketing of shellfish and the sanitary control of the shucking, processing and marketing of shellfish. The Marine Resources Commission assumes the responsibility of patrolling restricted shellfish areas, apprehending and prosecuting violators, controlling the relaying of polluted shellfish for cleansing purposes, and the overall harvesting of shellfish.

State regulations controlling the processing of shellfish are quite stringent. All plants handling, processing or packing shellfish for market are required to meet these sanitary standards. Periodic inspections are made of shellfish shucking plants and other establishments where oysters, clams or mussels are processed and packed for market. Any shellfish found unfit for market may be excluded and any packing house so insanitary as to

render it unfit for the preparation of such products may be closed by order of the State Health Commissioner.

To assist the plants in meeting the rigid sanitary requirements, the State Health Department consults with and advises dealers concerning construction of processing plants, requirements for equipment and operating procedures, and reviews plans for new construction. Increasing efforts are being made to train personnel in the shellfish industry in sanitary methods and procedures.

Due to the demand for oysters and clams, many individuals have recently started to shuck and process shellfish without the knowledge or supervision of the regulatory agencies. These products are sold locally through house-to-house routes or in certain stores and fish markets. For the most part, these shellfish are packed in glass canning jars and have no identification as to the packer or their source. The public is falsely led to believe that these products are shucked in their own liquor or custom packed, while in reality they are often soaked for long periods to increase the volume.

Purchasers of "bootleg" shellfish often do not realize that the health authorities are not aware of such operations or sales and, consequently, cannot assure that they were harvested for approved growing areas or processed under sanitary conditions. Since these operations are usually small, they do not have the necessary buildings, equipment and water supplies to produce a wholesome product. Further, such competition is unfair to those dealers who must provide these requirements under state control. The Health Department assumes jurisdiction whenever such operations are found but certification has not been required for intrastate sales and locating them is rather difficult.

In order to better control the indiscriminate shucking and processing of shellfish throughout the State, the State Board of Health has recently adopted new Rules and Regulations Governing the Sanitary Control of Oysters, Clams, and Other Shellfish. Under these new regulations, which become effective September 1, 1969, all persons or establishments who shuck or process shellfish are required to be certified by the State Health Department. These regulations are not applicable for restaurants or other establishments where shellfish are prepared for consumption on the premises since such places would ordinarily come under the regulations governing restaurants.

The State Health Commissioner has designated the National Shellfish Sanitation Program requirements as the standards and specifications which all packers or processors of shellfish must meet to become certified. These standards are now in effect by all currently certified shellfish dealers within the State. For all practical purposes, the new rules and regulations make it mandatory that the same quality controls and sanitary requirements be applied to shellfish sold within the State as is applied to those shipped through interstate commerce. Only through such controls can the consuming public have confidence in obtaining a safe product produced under sanitary conditions.

Woman's Auxiliary....

Convention-Talk

. . . for the Forty-Seventh Annual Convention of the Woman's Auxiliary to The Medical Society of Virginia . . . is the chief topic of interest. The last important details have fallen into place amid a flurry of activity and excited whispers. The general tenure carries this message, "Bring your pads and pencils, concern for your fellow-man, your open mind and new ideas." The program promises to be exciting and helpful. Our particular thanks are extended to Mrs. K. K. Wallace, Jr., convention chairman, who has so beautifully organized and arranged for our activities during the convention. A cordial invitation is once again extended to all members of the Auxiliary, their guests and to the wives of physicians attending this convention. Auxiliary guests are invited to attend the board meeting as well. Several guests who have accepted invitations to attend with us are Mrs. Robert F. Beckley, treasurer of the Woman's Auxiliary to the American Medical Association; Mrs. Virgil Ray Forester, president of the Woman's Auxiliary to the Southern Medical Association; Mrs. Wilson P. Smith, Eastern Regional Chairman of the Woman's Auxiliary to the AMA; Mrs. Wallace Sodowsky, president of the Woman's Auxiliary to the Medical and Chirurgical Society of Maryland.

Mrs. Robert F. Beckley of Lock Haven, Pennsylvania, has previously served the national auxiliary as eastern regional vice president for three years, chairman of the resolutions committee, regional health careers chairman and Pennsylvania delegate to the President's White House Conference on Aging.

She has served her county and state auxiliaries in many capacities including president. At present she is the auxiliary delegate to the Pennsylvania Health Council, serving on the legislative committee. She is also president of the Gavel Club, a group of past state presidents and honorary members.

Mrs. Beckley has been a member of the board of the Pennsylvania Home Economics Association, the Pennsylvania Citizens' Council, the Planning Committee of the Council on the Status of Women. She also was legislative key woman for Pennsylvania Hospital Auxiliaries, central region.

Huldah Brown Beckley received her B.S. degree from Pennsylvania State University in home economics. She taught home economics in Northampton, Pennsylvania, prior to her marriage to Dr. Beckley, a radiologist. She is the mother of three children.

Mrs. Beckley served on the local board of the American Cancer Society as education chairman and is a member of the YMCA board on the publicity committee. Other organizations in which she is active include the DAR, AAUW, Visiting Nurse Association, child welfare board, Girl Scouts, PTA and Lock Haven Hospital Auxiliary. A member of the Great Island Presbyterian Church, she is president of the women's organization.

Mrs. Virgil Ray Forester is past president of the Woman's Auxiliary to the Oklahoma City Medical Society and the Oklahoma State Medical Association's Auxiliary, and has ably served her county and state in many capacities, as sponsor in Oklahoma County and State for the Oklahoma Chapter of Interns and Residents Wives Association. She is at present parliamentarian for her county auxiliary and program chairman for the state medical auxiliary. Mrs. Forester introduced the GEMS-babysitters' course to her county. As a result 1,500 teenage babysitters were trained. She also organized the Volunteer Friendly Visitor's Training Program of which 138 adults have been trained.

Mrs. Forester has served the Woman's Auxiliary to the American Medical Association for the past seven years as director, Liaison to the Student AMA Auxiliary of which she is a sustaining member, ADHOC Committee, AMPAC and has been National Representative at various state meetings throughout the United States. She has served as national safety chairman; also represented the National Auxiliary at National Safety Conferences and served as a member of the Woman's Committee on Traffic Safety, an appointment by the President of the United States.

At present Mrs. Forester is serving as Director of the Woman's Auxiliary to the AMA and is on the 1968-69 nominating committee. She is chairman of the Philanthropy Committee. She is also a member of the faculty wives organization at the University of Oklahoma Medical Center. Her husband is a practicing gastro-enterologist in Oklahoma City.

A graduate of the Oklahoma Baptist University Mrs. Forester has degrees of Bachelor of Fine Arts in Piano, Organ and Public School Music. She has a degree of Bachelor of Arts from the University of Oklahoma with graduate work at Oklahoma State University.

For many years she has served her community as an officer of civic, benevolent, cultural and scholastic organizations. She is a former faculty member of Oklahoma Baptist University, a professional organist and was elected to the President's Consulting Committee in the School of Fine Arts at OBU. She has acted as church organist in a number of churches.

She has received national recognition as a Junior Red Cross sponsor, was a member of the service league at St. Anthony Hospital in Oklahoma City and numerous activities in music societies.

Autumn by the ocean can be beautiful with gentle breezes and pounding surf, and you will want to hear and meet our interesting guests.

The Happiest, Season

An old man was once asked "Which is the happiest season of life?" He replied: "When spring comes, and in the soft air buds are breaking on the trees, and they are covered with blossoms, I think, 'How beautiful is Spring!' And when the summer comes, and covers the trees with its heavy foliage, and singing birds are among the branches, I think, 'How beautiful is Summer!' When autumn loads them with golden fruit, and their leaves bear the gorgeous tint of frost, I think 'How beautiful is Autumn!' And when it is severe winter, and there is neither foliage nor fruit, then I look up through the leafless branches, as I never could until now, and see the stars shine. All seasons are beautiful, each in its own way."

—*Author Unknown*

Editorial . . . .

Health and Rights

SOME OF THE STUNNING CHANGES on the American scene over the past decade have been brought about by the declaration of many rights that must be guaranteed and, if necessary, provided by government. The whole area of health is in the vanguard of human rights that are increasingly considered to be the proper due of every individual.

Our Country today is caught up in an egalitarian revolution. The government is concerned in a positive way with the quality of life of its citizens, and is assuming an increasingly active role in many aspects of the life of its citizens. Because an individual's health is his most vital possession, and health is essential if he is to enjoy "the good life", it is quite understandable that the government has moved rapidly and extensively into the health fields. Evidence for this is noted everywhere from the astronomic growth of the National Institutes of Health, to the increasing stringency of Food and Drug Administration rulings, to the well publicized malnutrition searches. There is no doubt but that the government has made a strong commitment to the health of all of its citizens and has declared health to be one of the basic rights of all individuals. Or is it a basic right to health care? The distinction is quite important.

Most of us have more or less concurred with Galen that "that condition in which we do not suffer or are not impeded in the activities of life we call health." There have been increasing trends to regard health as a positive attribute, however, and this viewpoint is epitomized by the "positive health" definition posited by the World Health Organization, "Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity."

Note that there are no qualifying words or phrases as to time or character other than the single word "complete". Such well-being cannot be intermittent or partial if the individual is to be considered healthy. Note also the modifying words physical, mental, and social. Health, then, in the WHO concept is not a some-time or a limited state of a human being, but is an all inclusive, all-time euphoria.

There is certainly nothing wrong with having such a concept as an ideal. Man's reach must exceed his grasp. No one can fault the heralding of the millenium. But idealism unrestrained by perspective may lead to

faulty judgments and conclusions, and to rash or even violent actions. The WHO definition and the present trends in America need to be examined in this light.

It is doubtful that there has ever been or will ever be any individual who fulfills the WHO criteria for being healthy. Parenthetically such a goal may be questioned as to its desirability as well as its feasibility. Is nirvana the ultimate of living? Is there no place for stress, the biologic energizer? Indeed, can an individual be healthy without acute awareness, stress, and suffering? Even if WHO health is accepted as an appropriate goal, it is utterly unattainable. Is it ever wise to established goals that are totally unrealistic and to raise hopes that can only be dashed.

Is there a basic human right to optimal medical care and health services? On the face of it this seems to be undisputable and attainable. But even here there are significant and basic difficulties because of the nature of government, and of the individual, and of logistics.

Our form of government has to walk the tight rope of liberty and law. How far should or can government go in forcing an individual to conform to and to accept "optimal" health care? Who determines the meaning of "optimal" in terms of the operational impact on the individual? What should be the government's response to an individual who does not report for a chest x-ray or forgets to take his digitalis, or smokes too many of the wrong kind of cigarettes? We certainly are not ready in this country to accept the "liberal" philosophy enunciated by George Bernard Shaw that under socialism man would be forced to be well fed, well clothed, and well housed as long as the State permitted him to live.

Individuals, to put it mildly, are individualistic. Many "great experiments" designed to help mankind have failed miserably. Prohibition is a case in point. Is the individual any more ready to accept being forced into the mold of even such a good thing as "optimal health care"?

The matter of logistics prevents the establishment of "optimal" health as an achievable national program. The money and personnel necessary to achieve these goals are simply not available at the present time or in the foreseeable future.

Certainly no one denies that there are many faults with our health care system, or that everyone should have the best possible health care, and achieve the best possible health. But unrealistic goals established as rights of all citizens and as national policy can only cause frustration, hostility and divisiveness in large segments of our society.

This is no rationalization of failures or plea for inaction in the face of urgent needs and changing concepts. This is a plea for perspective and common sense.

W. Taliaferro Thompson, Jr., M.D.

The Virginia Regional Medical Program

THIS ISSUE OF THE VIRGINIA MEDICAL MONTHLY is devoted largely to various aspects of the Virginia Regional Medical Program. Many members of The Medical Society of Virginia are not familiar with the diversified activities of this program and the contained material should be of distinct aid.

Under the leadership of Dr. Eugene R. Perez and his staff, and with the aid of the excellent Governor's Regional Advisory Group and associated committees, the Program now enters a new and important phase. Seven well thought out projects are currently under review in Washington and there is every reason to believe that most, if not all, will be in operation in Virginia within the next few months. These will, in large measure, aid in the continuing education of physicians, nurses and ancillary health personnel.

Teaching will not be confined to the State medical schools but will be oriented to the community at large. The outstanding need in Virginia is for a program that will bring together the various medical disciplines, the medical schools, the community hospitals and the local health centers into one overall working partnership. The Virginia Regional Medical Program is designed to accomplish this purpose and there is every reason to believe that it will succeed.

H.J.W.

News . . . .

Calendar of Events

The Medical Society of Virginia—Annual Meeting—Virginia Beach—October 16-19, 1969.

American Academy of Pediatrics—Annual Meeting—Palmer House—Chicago—October 18-23, 1969.

American Cancer Society, Virginia Division—Annual Meeting—Hotel Jefferson—Richmond—October 22-23, 1969.

McGuire Lecture Series—Program on Dermatology—Medical College of Virginia—Richmond—October 23-24, 1969.

Conference on Children with Learning Disabilities—Sponsored by Virginia Council on Health and Medical Care—Conference Center—Williamsburg—November 9-11, 1969.

Southern Medical Association—Annual Meeting—Atlanta, Georgia—November 10-13, 1969.

Virginia Hospital Association—Annual Meeting—Marriott Twin Bridges Motor Hotel—Arlington—November 13-14, 1969.

Southern Society for Pediatric Research—Annual Meeting—Medical College of Virginia—Richmond—November 21-22, 1969.

American Medical Association—Clinical Convention—Denver—November 30-December 3, 1969.

Ware Residence Program—Medical College of Virginia—Richmond—December 10-12, 1969.

Law Institute on Hospitals and Medicine—Medical College of Virginia—Richmond—February 6, 1970.

Stoneburner Lecture Series—Medical College of Virginia—Richmond—February 19-20, 1970.

Annual Postgraduate Program—Sponsored by Medical Staff of Roanoke Memorial Hospital—Roanoke—March 19-20, 1970.

* * * * *

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicans. You can help by keepng us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following members were received into The Medical Society of Virginia during the month of August:

Robert Stanley Brown, M.D., Charlottesville
Hyoun Chul Chai, M.D., Hampton
John Rees Dunn, M.D., Stuart
Alejandro Emilio Posada, M.D., Charlottesville
Richard James Redding, M.D., Alexandria
Donald Ray Richardson, M.D., Charlottesville
Melvin Vinik, M.D., Richmond

Dr. Nagler Honored.

Dr. Benedict Nagler, superintendent of Lynchburg Training School and Hospital, was honored on October 21st when the new Social-Vocational Building was dedicated. The building is named in his honor.

The new building will be devoted entirely to habilitation, instruction and social activities of the patients. There will be classes in shoe repairing, auto repairing, barber and beauty shop work, carpentry, industrial arts, crafts, office machines and sewing. There are also rooms for social activities, an audio-visual department, and offices for teaching and administrative staffs.

Symposium on Radiology and General Medicine.

The Department of Radiology of Memorial Hospital, Danville, and the Department of Radiology of Duke University Medical Center, Durham, North Carolina, will present a symposium on Radiology and General Medicine—Present Concepts and New Horizons, November 13-15. This will take place in the Nurses Auditorium of Memorial Hospital.

The program for the 13th, starting at 9:00 A.M., is as follows: Moderator—Robert McLelland, Duke University; Cholangiography in All of Its Aspects—Dr. John A. Evans, Cornell University Medical College, New York; Arteriography in the Diagnosis of Acute and Chronic Gastro-Intestinal Bleeding—Dr. Richard J. Fleming, Cornell University Medical College; The Osseous and Non-Osseous Manifestations of Pediatric Trauma—Dr. David H. Baker, Columbia College of Physicians and Surgeons, New York; The Concept of the Acinus as a Structural Unit in the Roentgenologic Diagnosis of Pulmonary Disease—Dr. Robert G. Fraser, McGill University, Montreal; Mammography in the Diagnosis of Breast Diseases—Dr. Robert L. Egan, Emory University, Atlanta; The Roentgenologic Diagnosis of Neoplasms in and Adjacent to the Brain Stem—Dr. Michael D. F. Deck, Cornell University Medical College; Coronary Arteriography—Dr. Fleming; The Role of Special Studies in the Management of Extracranial Tumors of the Head and Neck—Dr. Deck; The Pleura: a Review of Normal and Pathologic Physiology and Roentgenology—Dr. Fraser; and Pulmonary Problems in Children—Dr. Baker. The program for the 14th is: Moderator—Dr. Robert G. Lester, Duke University; The Clinical Application of Mammography—Dr. Egan; The Mediastinum Including Vascular Anomalies of the Aortic Arch—Dr. Baker; Traecho-Bronchial Dynamics in Obstructive Airway Disease—Dr. Fraser; Specimen Radiography and Correlated Clinical, Roentgenographic and Pathologic Whole Organ Breast Studies—Dr. Egan; Perspectives in Nuclear Medicine—Dr. Alexander Gottschalk, University of Chicago, Chicago; Retroperitoneal Fibrosis—Dr. Evans; Pediatric Urologic Radiology Including Current Concepts on Hydronephrosis—Dr. Baker; Angiography in Pediatric Neoplastic Disease—Dr. Fleming; The Radiology of Renal Masses—Dr. Evans. On the 15th, moderator will be Dr. James H. Scatliff, University of North Carolina Medical School; The Proper Niche of the Gamma Camera — Dr. Gottschalk; Quantitative Factors of Left Sided Cardiomegaly—Dr.

M. Paul Capp, Duke University Medical Center; Emergency Neo-Natal Congenital Heart Disease—Dr. Lawrence B. Leinbach, Bowman Gray School of Medicine; A New Look at Thyroid Scanning Including Fluorescent Scanning—Dr. Gottschalk.

Address all inquiries to Robert McLelland, M.D., Director, Department of Radiology, Memorial Hospital, Danville, Virginia 24541.

Wanted.

Generalist or Internist, who can tolerate Psychiatrists. To work as a team with a Psychiatrist to provide physical care for active psychiatric patients, while Psychiatrist provides psychiatric care or to provide total care for physically ill and aged psychiatric patients. Substantial salary increase as of July 15.

Write Thomas B. Stage, M.D., Hospital Director, VA Hospital, Salem, Virginia 24153. (*Adv.*)

For Sale.

One Picker 300 MA-125 KVP Generator, 1/30 second timer Centurian 11 Radiographic-Fluoroscopic table with 8 x 10 - 10 x 12 spot film device rotating anode tubes floor to ceiling tube stand. Price $2,000.00.

One Picker 200 MA-100 KVJ Generator, 1/20 second timer Centurian 11 Radiographic-Fluoroscopic 8 x 10 - 10 x 12 spot film device rotating anode tubes floor mounted stand. Price $1,000.00.

Contact Sigmund Newmen, M.D., 1220 East West Highway, Apt. 522, Silver Spring, Maryland 20910. (*Adv.*)

Wanted.

Full time staff physician for Student Health Service at Virginia Polytechnic Institute, Blacksburg. For further information write or call Emory R. Irvin, M.D., Blacksburg, Virginia 24060. Phone 552-6444. (*Adv.*).

Wanted.

Internists (General Medicine) for a 765-bed GM&S hospital and 550-bed Domiciliary; affiliated with George Washington University. Low cost housing and excellent recreational facilities available; within easy driving distance of Washington, D. C., and Baltimore, Maryland. An equal opportunity employer. Apply to Chief of Staff, VA Center, Martinsburg, West Virginia 25401. (*Adv.*)

Obituary . . . .

Dr. James Dean Creger,

St. Paul, was killed in an automobile accident on July 23. He was fifty-nine years of age and a graduate of the Medical College of Virginia in 1934. Dr. Creger had practiced medicine in St. Paul from 1936 to 1958, at which time he became director of the Health Department in Russell, Wise and Dickenson Counties. He served in the Medical Corps during World War II. Dr. Creger had been a member of The Medical Society of Virginia for thirty-two years.

His wife, his mother and a sister survive.

Dr. John Warwick Turman,

Richmond, died August 25, at the age of 86. He was a graduate of the former University College of Medicine in 1910. Dr. Turman had practiced in Richmond until his retirement in 1960. He served in the Army Medical Corps in World War I. Dr. Turman had been a member of The Medical Society of Virginia for fifty-six years.

His wife and a sister survive.



symptoms of mixed anxiety-depression are rarely clear-cut...
but they are often a clear indication for

Mellaril®
(thioridazine)
25 mg. t.i.d.

effective in mixed anxiety-depression and in moderate to severe anxiety

Before prescribing or administering, see Sandoz literature for full product information, including adverse reactions reported with phenothiazines. The following is a brief precautionary statement.

Contraindications: Severe central nervous system depression, comatose states from any cause, hypertensive or hypotensive heart disease of extreme degree.

Warnings: Administer cautiously to patients who have previously exhibited a hypersensitivity reaction (e.g., blood dyscrasias, jaundice) to phenothiazines. Phenothiazines are capable of potentiating central nervous system depressants (e.g., anesthetics, opiates, alcohol, etc.) as well as atropine and phosphorus insecticides. During pregnancy, administer only when necessary.

Precautions: There have been infrequent reports of leukopenia and/or agranulocytosis and convulsive seizures. In epileptic patients, anticonvulsant medication should also be maintained. Pigmentary retinopathy may be avoided by remaining within the recommended limits of dosage. Administer cautiously to patients participating in activities requiring complete mental alertness (e.g., driving). Orthostatic hypotension is more common in females than in males. Do not use epinephrine in treating drug-induced hypotension. Daily doses in excess of 300 mg. should be used only in severe neuropsychiatric conditions.

Adverse Reactions: *Central Nervous System*—Drowsiness, especially with large doses, early in treatment; infrequently, pseudoparkinsonism and other extrapyramidal symptoms; nocturnal confusion, hyperactivity, lethargy, psychotic reactions, restlessness, and headache. *Autonomic Nervous System*—Dryness of mouth, blurred vision, constipation, nausea, vomiting, diarrhea, nasal stuffiness, and pallor. *Endocrine System*—Galactorrhea, breast engorgement, amenorrhea, inhibition of ejaculation, and peripheral edema. *Skin*—Dermatitis and skin eruptions of the urticarial type, photosensitivity. *Cardiovascular System*—Changes in the terminal portion of the electrocardiogram have been observed in some patients receiving the phenothiazine tranquilizers, including Mellaril (thioridazine). While there is no evidence at present that these changes are in any way precursors of any significant disturbance of cardiac rhythm, several sudden and unexpected deaths apparently due to cardiac arrest have occurred in patients previously showing electrocardiographic changes. The use of periodic electrocardiograms has been proposed but would appear to be of questionable value as a predictive device. *Other*—A single case described as parotid swelling.

SANDOZ PHARMACEUTICALS, HANOVER, N.J. SANDOZ 69-384

Mild ulcerative colitis may be triggered here...



In mild ulcerative colitis, a number of factors can precipitate an attack: for instance, dietary indiscretion, such as eating raw foods, or emotional overreaction, such as that aroused by financial difficulties. No matter what causes the patient's sensitive colon to "act up," he soon suffers from acute discomfort...and often, from anxiety and apprehension as well. Such patients frequently respond well to adjunctive dual-action Librax® therapy.

Librax combines, in a single convenient capsule, the well-known antianxiety effect of Librium® (chlordiazepoxide HCl) and the dependable anticholinergic /antispasmodic effect of Quarzan® (clidinium Br). Therefore, as Librax helps to relieve the patient's excessive anxiety and reduce his overreaction to stress, it also, at the same time, helps to control hypersecretion and hypermotility, thus relieving spasm and abdominal discomfort.

With Librax, the dosage schedule is simple: 1 or 2 capsules, t.i.d. or q.i.d., will in most cases bring the patient significant relief of both the emotional and physical elements that contribute to his psychovisceral disorder.

Before prescribing, please consult complete product information, a summary of which follows.

INDICATIONS: Indicated as adjunctive therapy to control emotional and somatic factors in gastrointestinal disorders.

CONTRAINDICATIONS: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

WARNINGS: Caution patients about possible combined effects with alcohol and other CI depressants. As with all CNS-acting drugs, ca tion patients against hazardous occupations quiring complete mental alertness (*e.g.*, operat machinery, driving). Though physical and p chological dependence have rarely been repor on recommended doses, use caution in ministering Librium (chlordiazepoxide hyd chloride) to known addiction-prone individu or those who might increase dosage; withdra symptoms (including convulsions), follow discontinuation of the drug and similar to th seen with barbiturates, have been reported. U of any drug in pregnancy, lactation, or in wom of childbearing age requires that its poten benefits be weighed against its possible hazar As with all anticholinergic drugs, an inhibit effect on lactation may occur.

PRECAUTIONS: In elderly and debilita limit dosage to smallest effective amount to p clude development of ataxia, oversedation confusion (not more than two capsules per initially; increase gradually as needed and to

or here.



ıted). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

ADVERSE REACTIONS: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver-function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diet.

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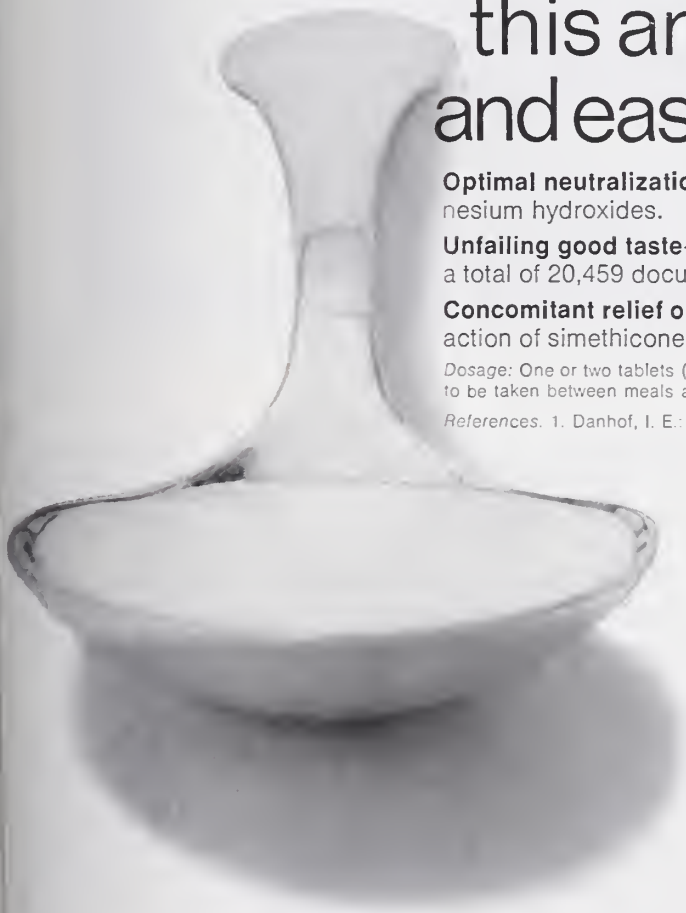
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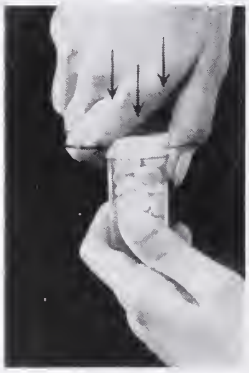
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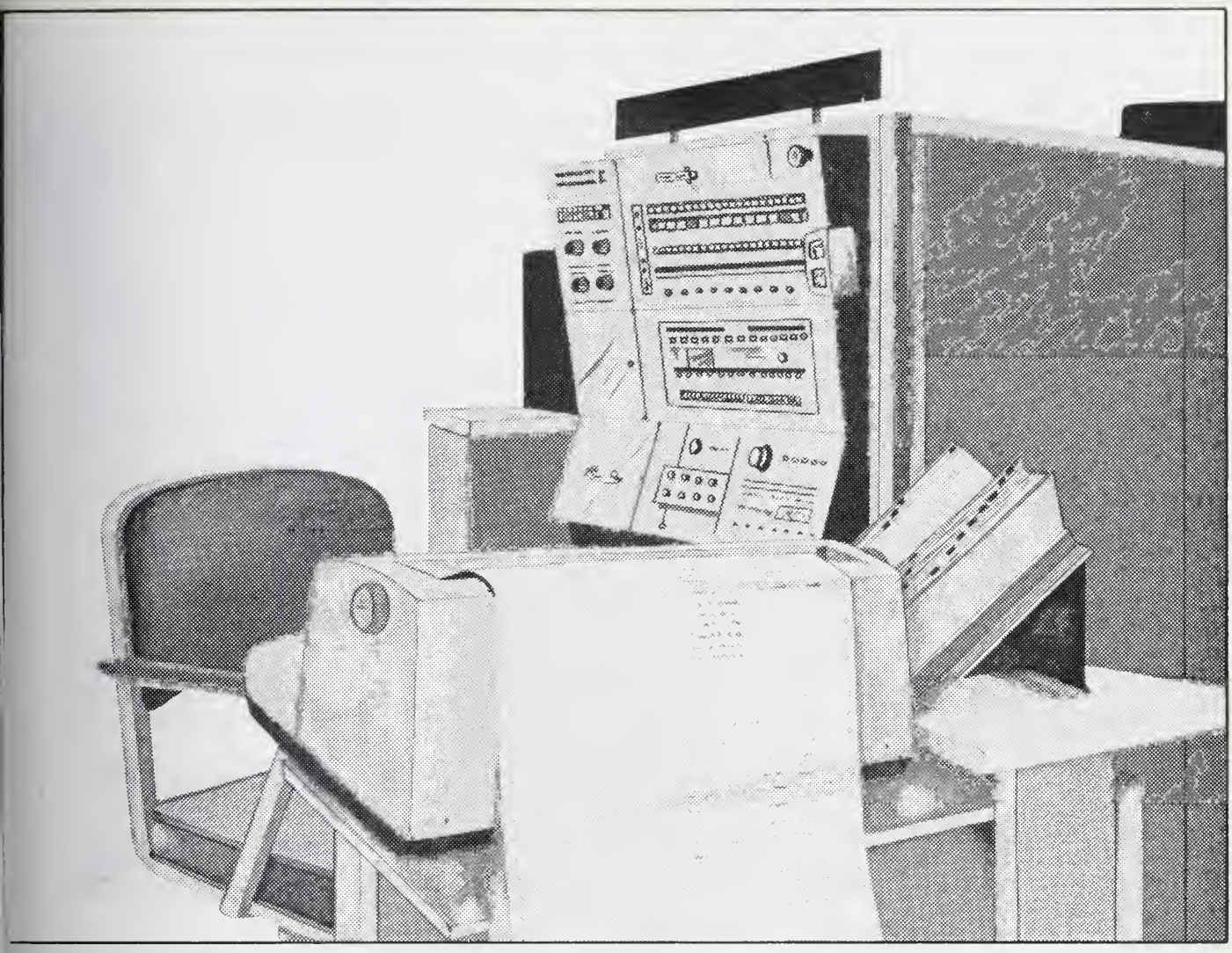
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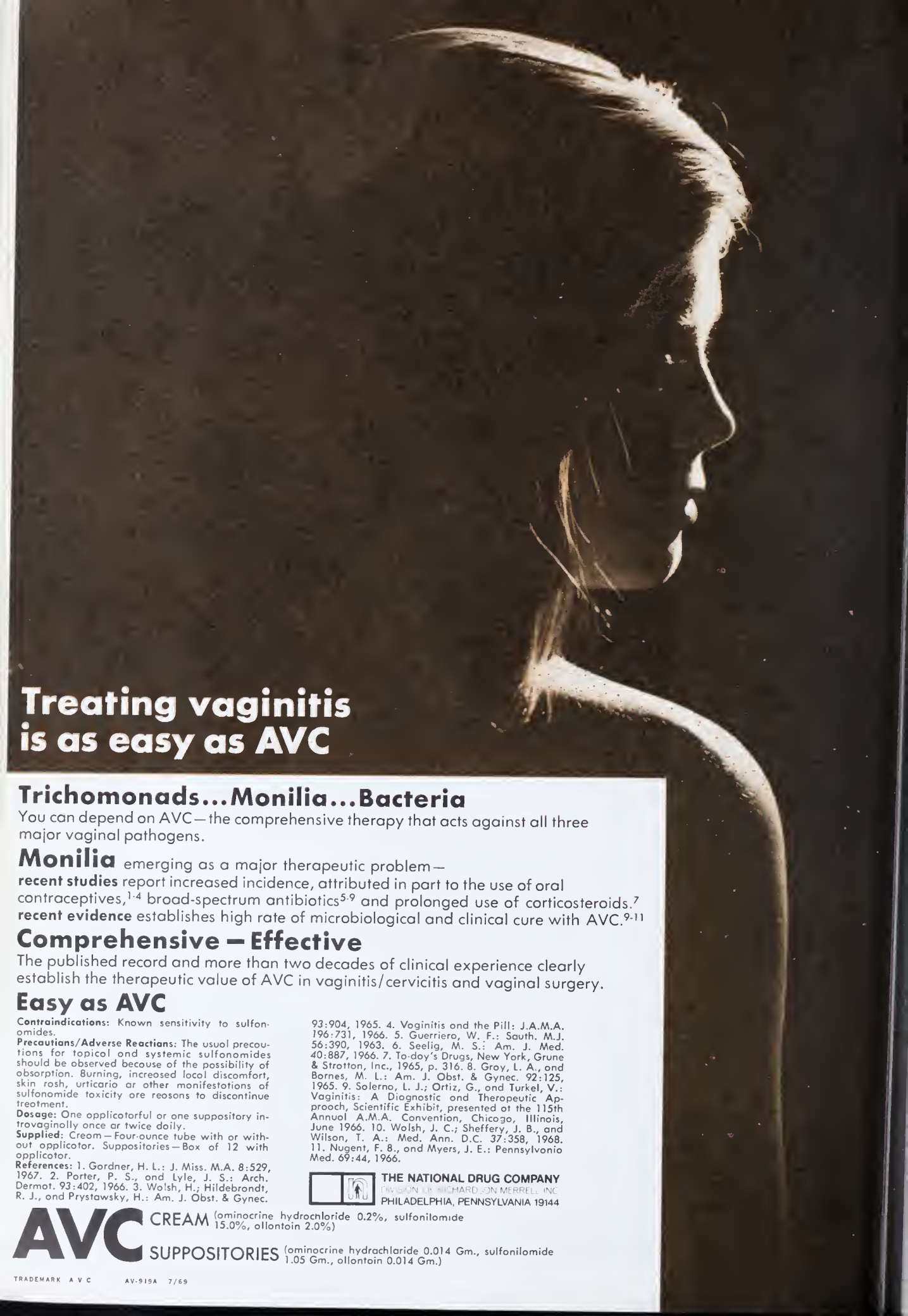
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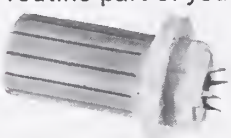
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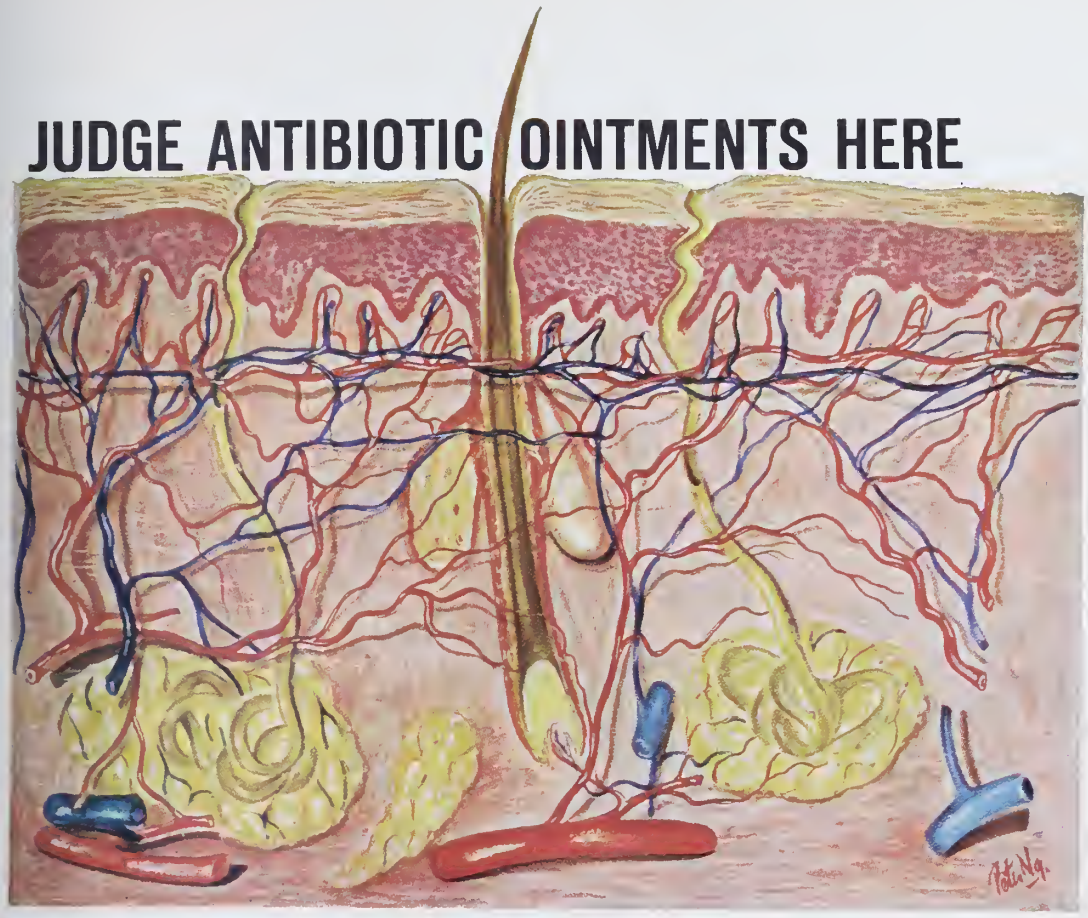
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Results on skin are final proof of any topical antibiotic's effectiveness

No in vitro test can duplicate a clinical situation on living skin. 'Neosporin' (polymyxin B—bacitracin—neomycin) Ointment has consistently proven its effectiveness in thousands of cases of bacterial skin infection. The spectra of the three antibiotics overlap in such a way as to provide bactericidal action against most pathogenic bacteria likely to be found topically. Diffusion of the antibiotics from the special petrolatum base is rapid since they are insoluble in the petrolatum, but readily soluble in tissue fluids. The Ointment is bland and nonirritating.

Caution: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Contraindications: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

Supplied: Tubes of 1 oz., ½ oz. with applicator tip, and ⅛ oz. with ophthalmic tip.

Complete literature available on request from Professional Services Dept. PML.

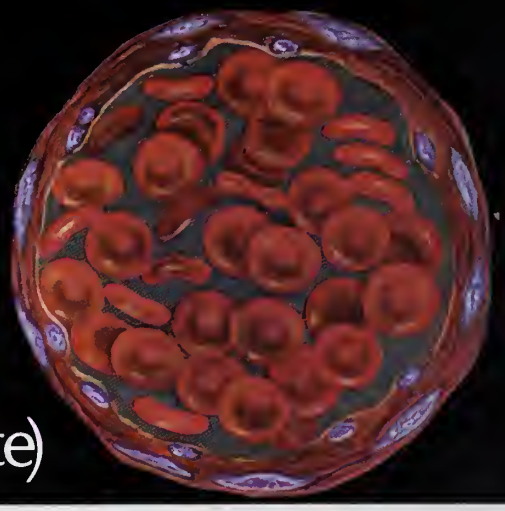
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POLYMYXIN B-BACITRACIN-NEOMYCIN OINTMENT

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N.Y.

Roniacol® Timespan®
(nicotinyl alcohol tartrate)



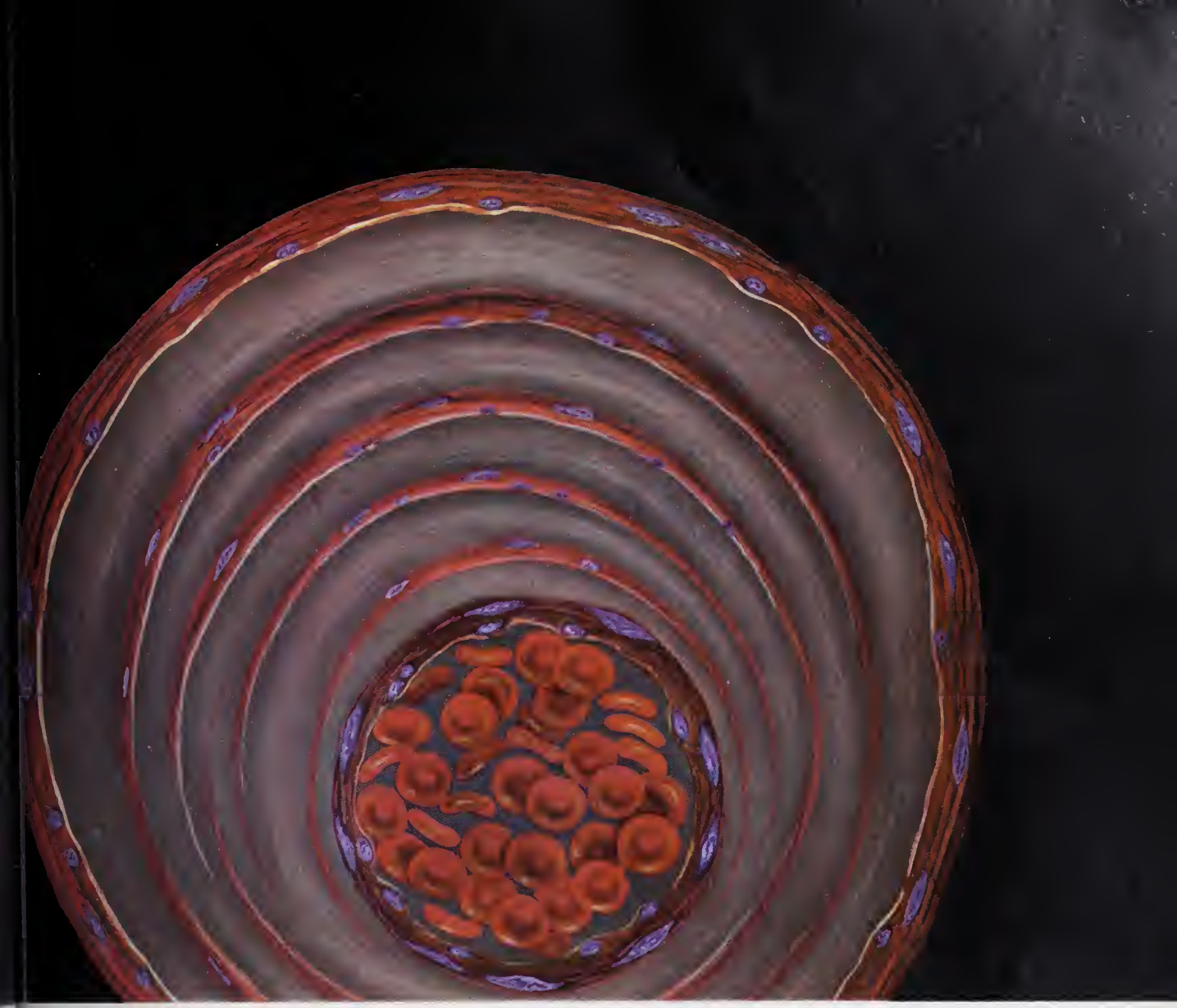
Because peripheral vasodilation is needed now... and must often be continued

Roniacol Timespan (nicotinyl alcohol tartrate) can make a significant contribution to effective treatment of peripheral vascular disorders. It is directed specifically toward improvement of peripheral blood flow, relief of ischemic symptoms, and the long-term management of these conditions.

Specific pharmacologic action—Roniacol (nicotinyl alcohol) acts selectively by relaxing smooth muscle of peripheral blood vessels. Onset of action is smooth and gradual, rarely causing severe flushing.

Relative freedom from side effects—Side effects that may occur occasionally with Roniacol seldom require discontinuation of therapy.

Prolonged, continuous drug release—Prolonged peripheral vasodilation is provided b sustained-release Roniacol Timespan (nicoti alcohol tartrate) Tablets. Part of the drug becomes available immediately, the remainde continuously over a period of up to 12 hours and dilation of constricted peripheral vessel usually maintained. Thus, with a single dose medication, patients can enjoy the benefits increased peripheral blood flow in ischemic extremities for up to 12 hours.



Smooth peripheral vasodilation from initial dosage...extended with simple, well-tolerated, b.i.d. dosage

he prolonged action of Roniacol Timespan nicotinyl alcohol tartrate) together with its ther benefits offer a therapeutically practical easure in the long-term management of eripheral vascular disease–advantages pecially important for older patients.

efore prescribing, please consult complete oduct information, a summary of which llows:

dications: Conditions associated with eficient circulation; e.g., peripheral vascular sease, vascular spasm, varicose ulcers, ecubital ulcers, chilblains, Meniere's syn- ome and vertigo.

Caution: Roche Laboratories endorses caution in the administration of any therapeutic agent to pregnant patients.

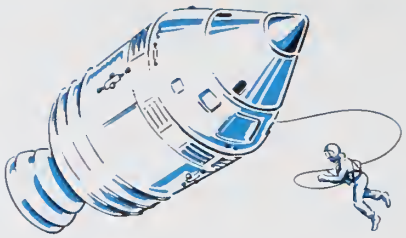
Side Effects: Transient flushing, gastric disturbances, minor skin rashes and allergies may occur in some patients, seldom requiring discontinuation of the drug.

Dosage: 1 or 2 Timespan Tablets—150 mg nicotinyl alcohol in the form of the tartrate salt—bottles of 50 and 500.

ROCHE

Roche
LABORATORIES
Division of Hoffmann - La Roche Inc.
Nutley, New Jersey 07110

Art is a conception of peripheral vasodilation.



Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . . a prophylaxis to prevent kidney or bladder calculi.

Uro-Phosphate®

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Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

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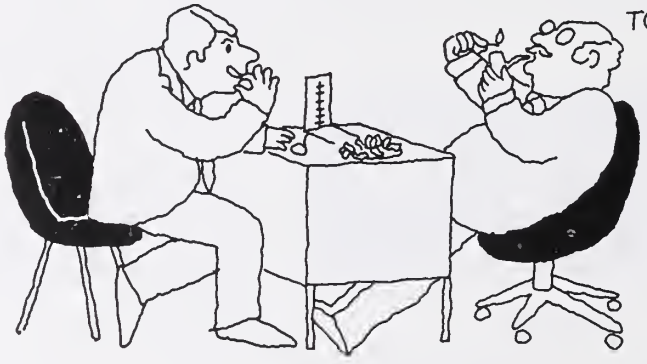
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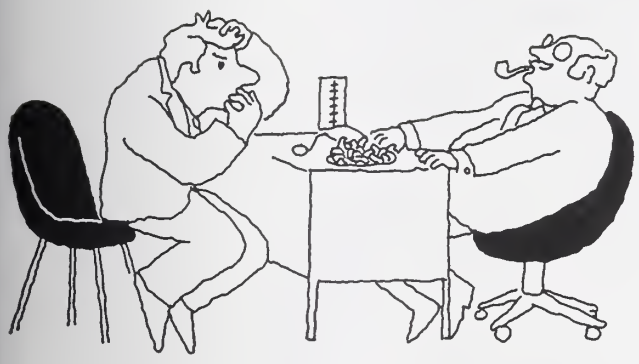


Regroton® to lower blood pressure

chlorthalidone 50 mg.
reserpine U.S.P. 0.25 mg.

Regroton®: chlorthalidone 50 mg., reserpine U.S.P. 0.25 mg. *Indications:* Hypertension. *Contraindications:* History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases. *Warning:* With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small-bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue coated potassium-containing formulations immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur. Discontinue one week before electroshock therapy, and if depression or peptic ulcer occurs. *Use in pregnancy:* Because chlorthalidone may cross the placental barrier and appear in cord blood and thiazides may appear in breast milk, this drug should be used with care in pregnant patients and nursing mothers. When used in women of childbearing age, the potential benefits of the drug should be weighed against the possible hazards to the fetus. Use of chlorthalidone may result in fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers. *Precautions:* Antihypertensive therapy with this drug should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. To avoid hypotension during surgery, discontinue therapy with this agent two weeks prior to elective surgical procedures. In emergency surgery use, if needed, anticholinergic or adrenergic drugs or other supportive measures as indicated. Because of the possibility of progression of renal damage, periodic kidney function tests are indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated. Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy the drug should be discontinued and potassium supplements given provided the patient does not have marked oliguria. Take particular care in cirrhosis or severe ischemic heart disease and in patients receiving

WE'VE GOT TO GET PLENTY OF REST AND TRY TO AVOID SITUATIONS THAT MAKE US ANXIOUS OR TENSE. AND WE'LL TAKE MEDICINE TO LOWER OUR BLOOD PRESSURE AND CALM US DOWN.



WE'VE GOT PROBLEMS.



and allay anxiety in hypertension

corticosteroids, ACTH, or digitalis. Severe salt restriction is not recommended. Use cautiously in patients with ulcerative colitis or gallstones (biliary colic may be precipitated). Bronchial asthma may occur in susceptible patients. *Adverse Reactions:* The drug is generally well tolerated. The most frequent side effects are nausea, gastric irritation, vomiting, diarrhea, constipation, muscle cramps, headache, dizziness and acute gout. Other potential side effects include angina pectoris, anxiety, depression, bradycardia and ectopic cardiac rhythms (especially when used with digitalis), drowsiness, dull sensorium, hyperglycemia and glycosuria, hyperuricemia, lassitude, restlessness, transient myopia, impotence or dysuria, orthostatic hypotension which may be potentiated when chlorthalidone is combined with alcohol, barbiturates or narcotics, leukopenia, aplastic anemia, skin rashes, thrombocytopenia, agranulocytosis, nasal stuffiness, increased gastric secretions, nightmare, purpura, urticaria, ecchymosis, weakness, uveitis, optic atrophy and glaucoma, and pruritus. Eruptions and/or flushing of the skin, a reversible paralysis agitans-like syndrome, blurred vision, conjunctival injection, increased susceptibility to colds, dyspnea, weight gain, decreased libido, dryness of the mouth, deafness, anorexia, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Jaundice, xanthopsia, paresthesia, photosensitization and necrotizing angiitis are possible. *Average Dosage:* One tablet daily with breakfast. *Availability:* Pink, single-scored tablets in bottles of 100 and 1000. (B)46-600-C

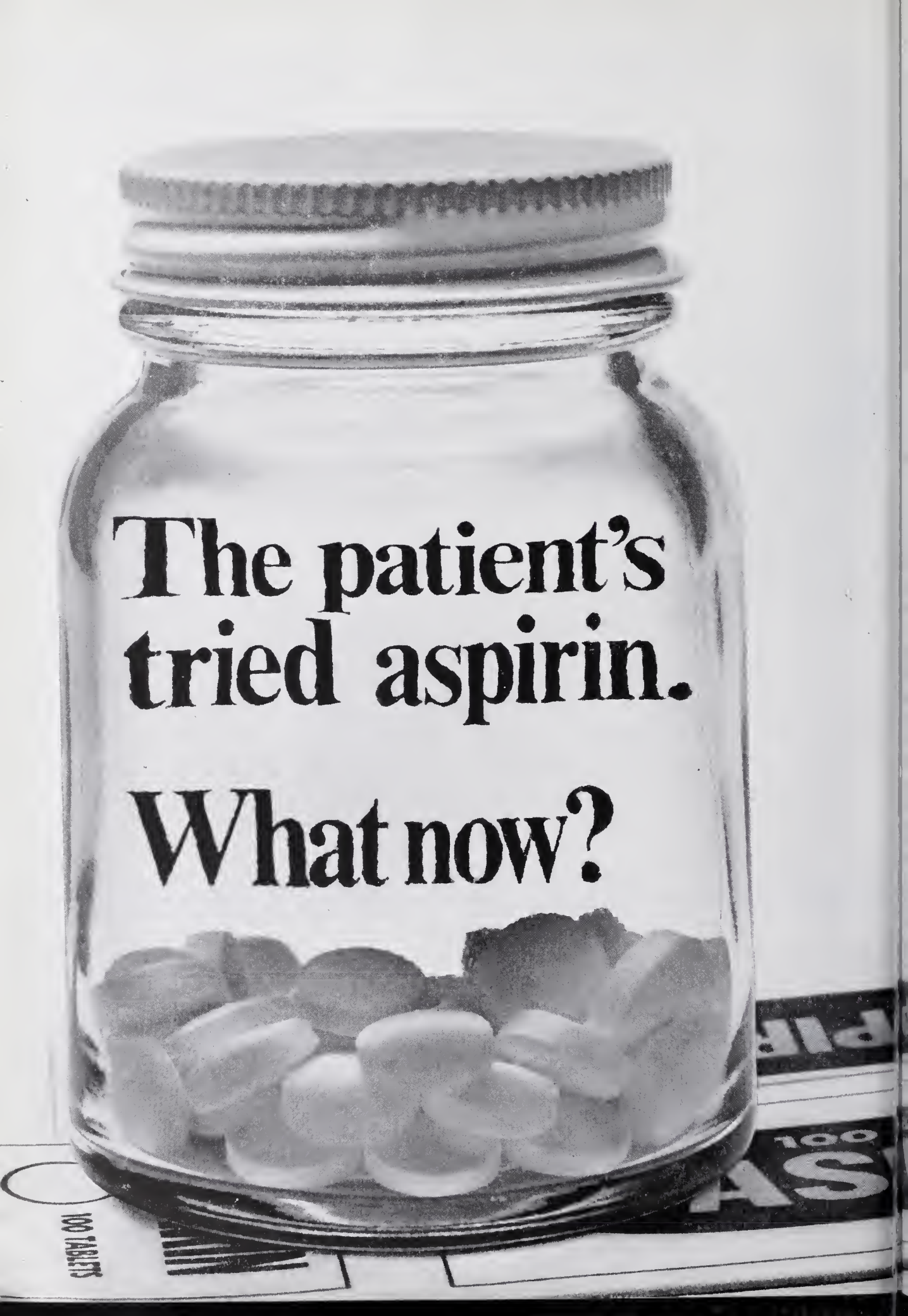
For details, please see complete prescribing information.

Regroton®

chlorthalidone 50 mg.
reserpine U.S.P. 0.25 mg.

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RE-6742


The patient's
tried aspirin.
What now?
100 TABLETS

There's a good chance your patient needs more than a non-prescription analgesic for pain relief. Especially after self-medication has failed.

Because continuing, increased pain and discomfort may in part be a reflection of anxiety, Equagesic is worthy of consideration. In a single, non-narcotic preparation, it helps relieve pain . . . *and* associated anxiety and tension.

Tablets

Equagesic®

(meprobamate and ethoheptazine citrate with aspirin) Wyeth

IN BRIEF

Contraindications: History of sensitivity or severe intolerance to aspirin, meprobamate or ethoheptazine citrate.

Warnings: USE IN PREGNANCY: Safety for use during pregnancy or lactation has not been established; therefore, it should be used in pregnant patients or women of child-bearing age only when the physician judges its use essential to the patient's welfare.

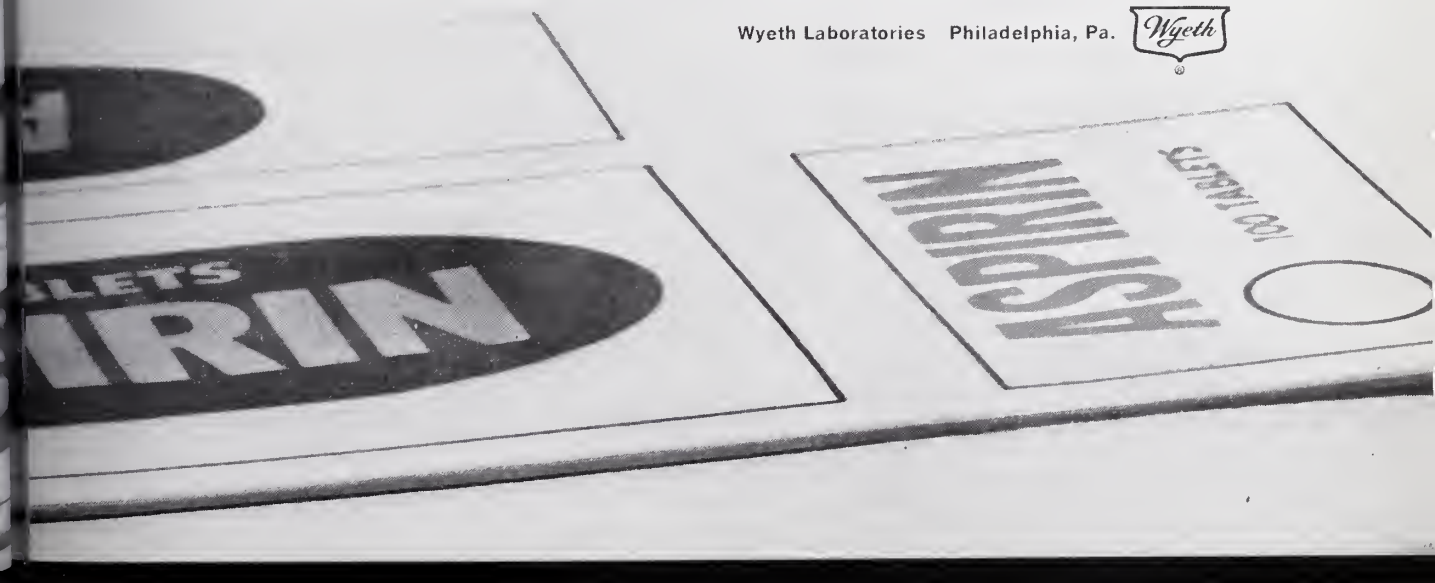
Precautions: Keep out of reach of children. Not recommended for patients 12 years old or less. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate in susceptible persons—as alcoholics, ex-addicts, severe psychoneurotics—has resulted in dependence or habituation. Withdraw gradually after prolonged excessive dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance, with resultant slowed reactions and impaired judgment and coordination. If drowsiness, ataxia or visual disturbances (impairment of accommodation and visual acuity) occur, reduce dose. If symptoms persist, patients should not operate machinery or drive. After meprobamate overdose, prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels, and hyperventilation are reported. Give cautiously and in small amounts to patients with suicidal tendencies. Treat attempted suicide (has resulted in coma, shock, vasomotor and respiratory collapse and anuria) with gastric lavage and appropriate symptomatic therapy (CNS stimulants and pressor amines as indicated). Two instances of accidental or intentional significant overdosage with ethoheptazine and aspirin have been reported. These were accompanied by CNS depression (drowsiness and lightheadedness) but resulted in uneventful recovery. On basis of pharmacologic data, CNS stimulation could be anticipated, with nausea, vomiting and salicylate intoxication (requires induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, and observation for hypoprothrombinemic hemorrhage [usually requires whole blood transfusions]).

Adverse Reactions: Ethoheptazine and aspirin may cause nausea with or without vomiting and epigastric distress in a small percentage of patients. Dizziness is rare at recommended dosage. Meprobamate may cause drowsiness, ataxia and rarely allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses. Such patients may have had no previous contact with meprobamate and may or may not have an allergic history. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. If allergic reaction occurs, discontinue meprobamate; do not reinstitute. Severe reactions, observed very rarely, include fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. These cases should be treated symptomatically including, when indicated, such medication as epinephrine, antihistamine and possibly hydrocortisone. A few cases of leukopenia, usually transient, have been reported on continuous use. Rarely, aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported, almost always in presence of known toxic agents.

Overdosage: See precautions section for management of overdosage.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa. Wyeth®



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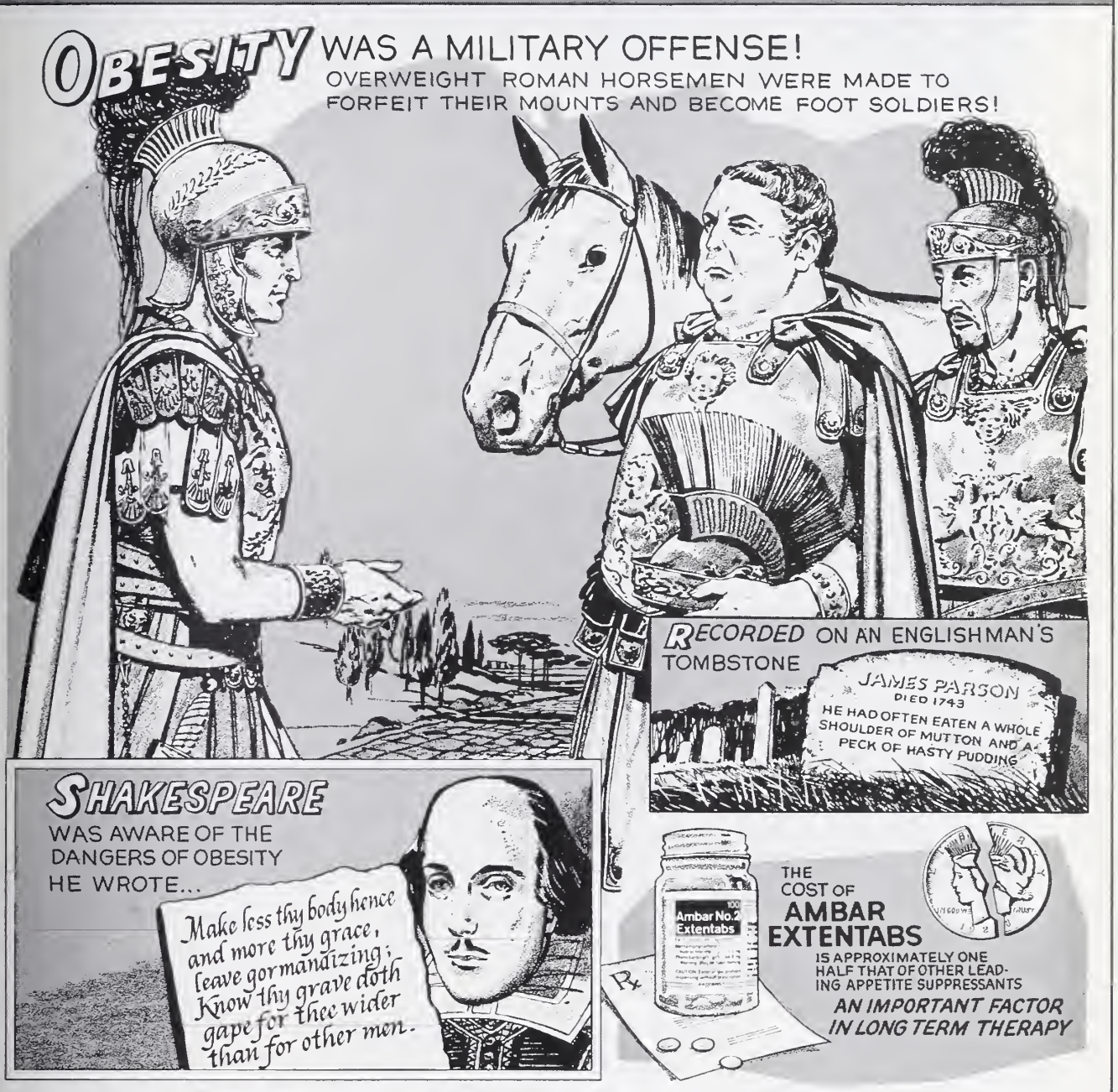
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The AMBAR® SCRAPBOOK of Obesity Oddities
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CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety... helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

A. H. ROBINS COMPANY, RICHMOND, VA. 23220 A·H·ROBINS



"All Interns are Alike"

It stands to reason. They all go through the same training; they all have to pass the same tests; they all have to measure up to the same standards; they all are underpaid, too. Therefore, all interns are alike.

That's utter nonsense, of course. But it's no more nonsensical than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

Bayer's standards are far more demanding. In fact, there are at least *nine specific differences* involving purity, potency and speed of tablet disintegration. These Bayer® standards result in significant product benefits including gentleness to the stomach, and product stability that enables Bayer tablets to *stay* strong and gentle until they are taken.

So next time you hear someone say that all aspirin tablets are alike, you can say, with confidence, that it just isn't so.

You might also say that all interns aren't alike, either.





Ornade® Spansule®

brand of
sustained release capsules

Trademark

Each capsule contains 8 mg. of Teldrin® (brand of chlorpheniramine maleate); 50 mg. of phenylpropanolamine hydrochloride; 2.5 mg. of isopropamide, as the iodide.

Prompt relief from nasal congestion and hypersecretion due to colds.

Before prescribing, see complete prescribing information in SK&F literature or *PDR*

Contraindications: Glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction.

Precautions: Use cautiously in the presence of hypertension, hyperthyroidism, coronary artery disease; warn vehicle or machine operators of possible drowsiness.

Usage In Pregnancy: Use in pregnancy, nursing mothers and women who might bear children only when potential benefits have been weighed against possible hazards.

Note: The iodine in isopropamide iodide may alter PBI test results and will suppress I^{131} uptake; discontinue 'Ornade' one week before these tests.

Adverse Reactions: Drowsiness; excessive dryness of nose, throat or mouth; nervousness; insomnia. Other known possible adverse reactions of the individual ingredients: nausea, vomiting, diarrhea, rash, dizziness, fatigue, tightness of chest, abdominal pain, irritability, tachycardia, headache, incoordination, tremor, difficulty in urination. Thrombocytopenia, leukopenia and convulsions have been reported.

Supplied: Bottles of 50 capsules.

One capsule q12h for round-the-clock relief

SK&F Smith Kline & French Laboratories



When disease is ruled out and psychic tension is implicated

Valium® (diazepam) helps relax the patient and relieve his somatic symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcitec states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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MEDICAL MONTHLY



OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA



Dear Doctor, You made me what I am today— a whole lot slimmer!

TEPANIL—the right start in support of the weight-control program *you* recommend. It reduces the appetite. Doesn't kill it. Weight loss is significant—gradual—yet there is a relatively low incidence of CNS stimulation. Because TEPANIL works on the appetite, not on the "nerves."

Contraindications: Concurrently with MAO inhibitors, in patients hypersensitive ta this drug; in emotionally unstable patients susceptible ta drug abuse.

Warning: Althaugh generally safer than the amphetamines, use with great caution in patients with severe hypertension ar severe cardiavascular disease. Da not use during first trimester of pregnancy unless potential benefits autweigh potential risks.

Adverse Reactions: Rarely severe enough ta require discontinuation of therapy, unpleasant symptams with diethylpropian hydrochloride have been reported ta accur in relatively law incidence.

As is characteristic of sympathomimetic agents, it may accasianally cause CNS effects such as insamnia, nervausness, dizziness, anxiety, and jitteriness. In contrast, CNS depressian has been reparted. In a few epileptics an increase in convulsive episades has been reported.

Sympathomimetic cardiavascular effects reparted include ones such as tachycardia, precardial pain, arrhythmia, palpitation, and increased blaad pressure. One published repart described T-wave changes in the ECG af a healthy young male after ingestion of diethylprapian hydrochloride; this was an isolated experience, which has nat been reported by athers.

Allergic phenamena reported include such conditians as rash, urticaria, ecchymosis, and erythema.

Gastraintestinal effects such as diarrhea, constipatian, nausea, vamiting, and abdaminal discamfort have been reported.

Specific reparts on the hematopoietic system include two each of bone marrow depression, agranulocytosis, and leukopenia.

A variety of miscellaneous adverse reactions have been reparted by physicians. These include camplaints such as dry mauth, headache, dyspnea, menstrual upset, hair lass, muscle pain, decreased libida, dysuria, and palyuria.

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Tepanil® Ten-tab®

(continuous release form)

(diethylpropion hydrochloride)

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Lactinex contains both *Lactobacillus acidophilus* and *L. bulgaricus* in a standardized viable culture, with the naturally occurring metabolic products produced by these organisms.

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Literature on indications and dosage available on request.

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HWD Baltimore, Maryland 21201

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References:
(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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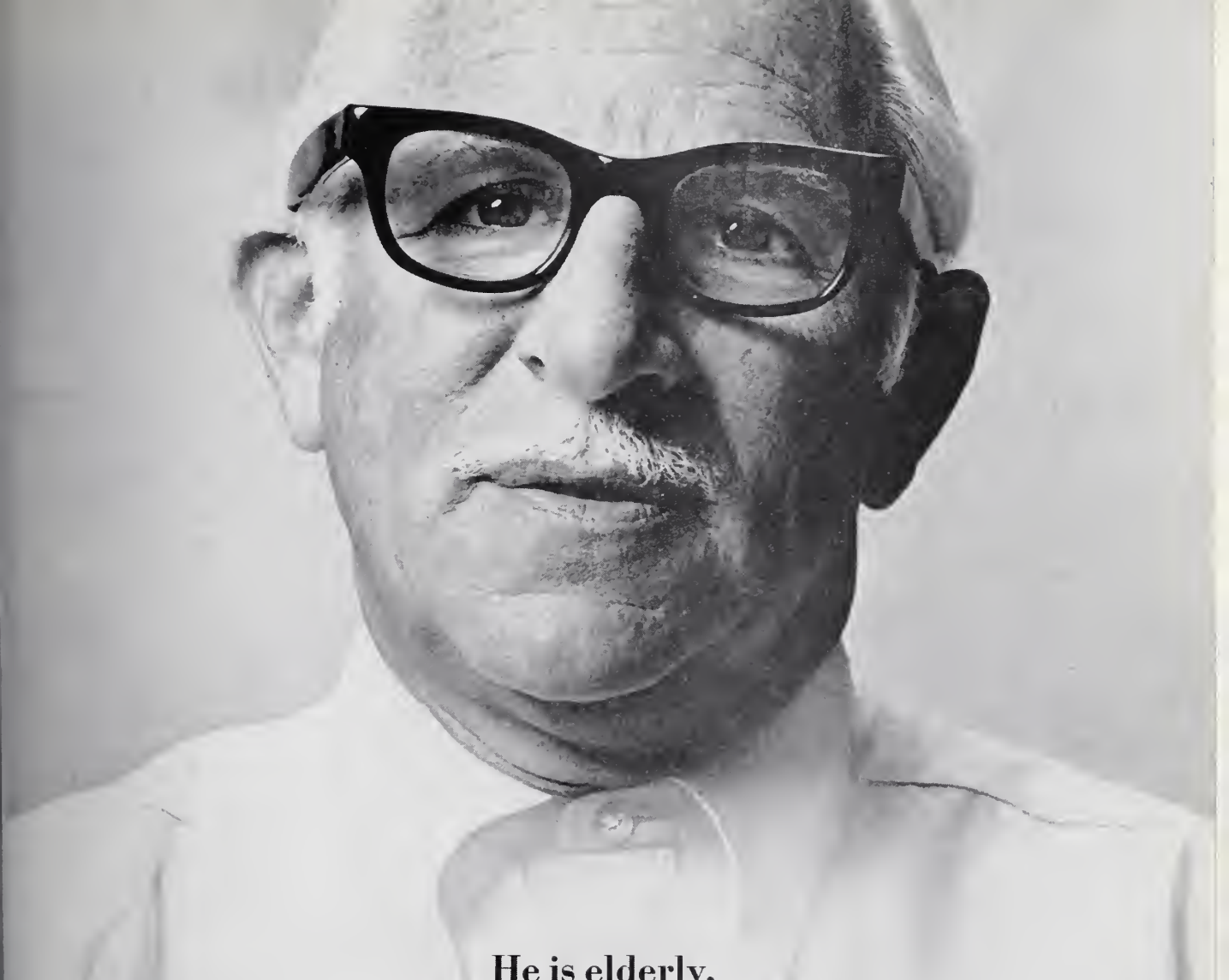
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For your susceptible candidates, prescribe DECLOSTATIN the broad-spectrum therapy that prevents monilial vergrowth.

ontraindication: History of hypersensitivity to demethylchlortetracycline or nystatin.

'arning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses 'e indicated, and, if therapy is prolonged, serum level determinations ay be advisable. A photodynamic reaction to natural or artificial sunght has been observed. Small amounts of drug and short exposure may 'oduce an exaggerated sunburn reaction which may range from erytema to severe skin manifestations. In a smaller proportion, photolergic reactions have been reported. Patients should avoid direct (posure to sunlight and discontinue drug at the first evidence of skin scomfort. Necessary subsequent courses of treatment with tetracyines should be carefully observed.

recautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken.

In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity: onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

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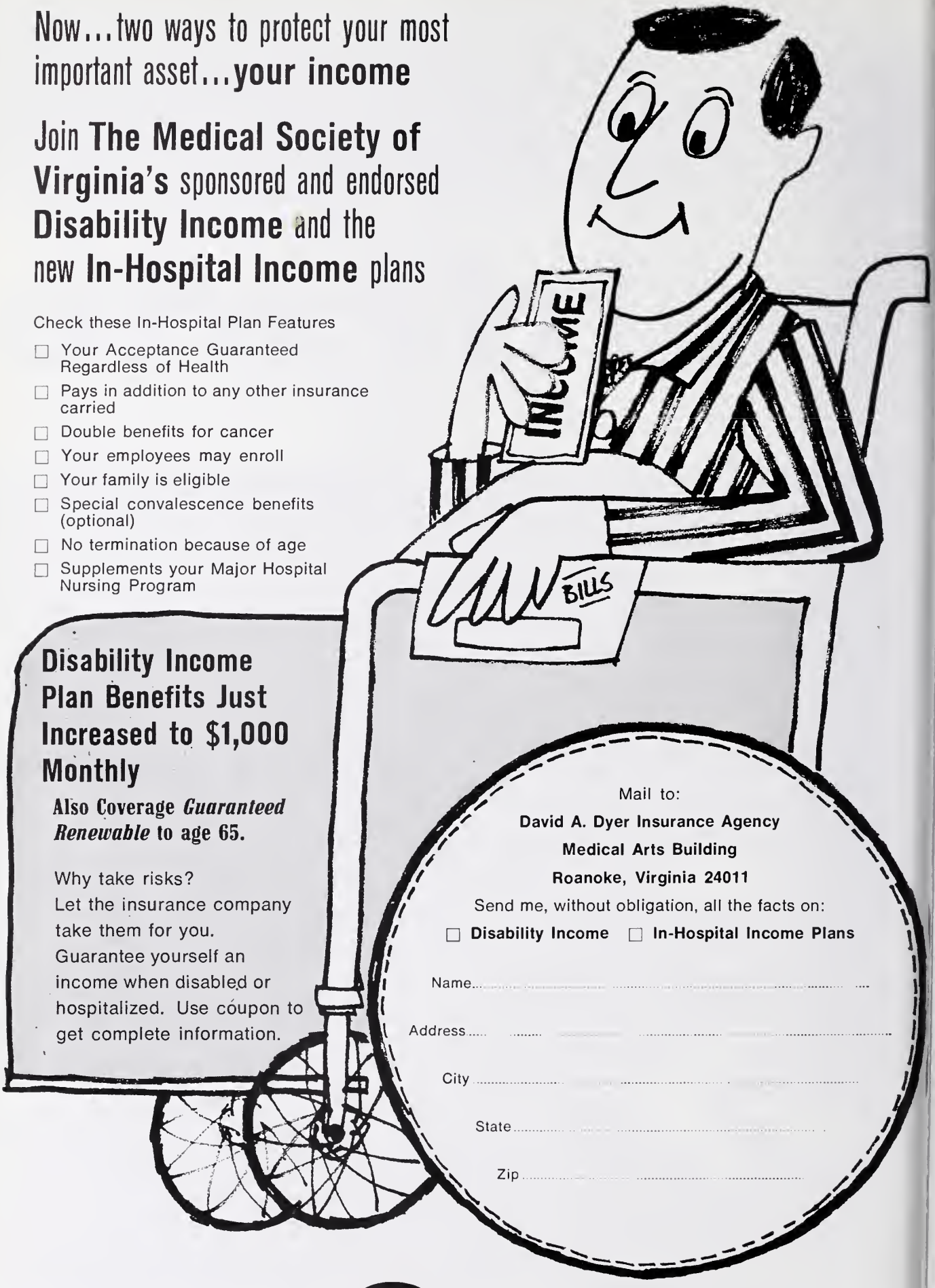
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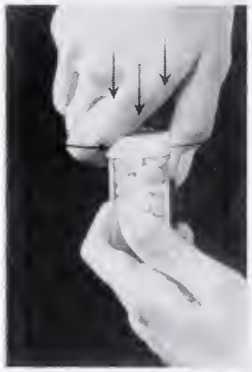
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has caused millions of accidental poisonings.

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Safety Cap Vials to keep your prescriptions Children-Safe



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Here's the secret (see photo at left). The closure on these containers requires a double motion to open. You must push down, then unscrew. This combination has been proven child-resistant. It could save the life of your child.

If you have children or if youngsters are frequent visitors to your home, please ask for the Safety Cap container next time you have a prescription filled at Peoples. It's an extra measure of safety that Peoples is glad to provide.

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AFTER FILLING OVER 110 MILLION PRESCRIPTIONS SINCE 1905, YOUR NEXT PRESCRIPTION IS AS IMPORTANT TO PEOPLES AS WAS THE FIRST

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For headache, a sovereign remedy was to wear a snakeskin round one's head.



A realistic approach to pain relief



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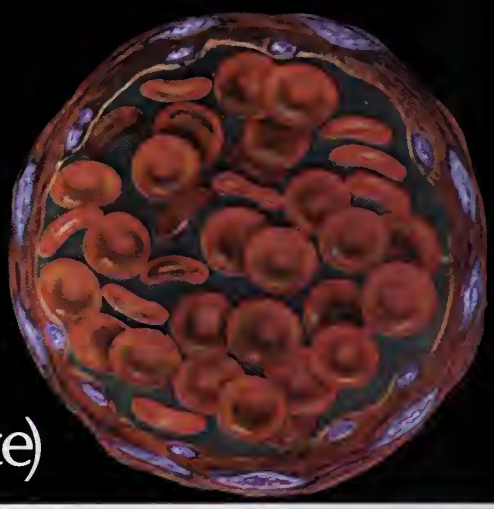
Each tablet contains:
Codeine Phosphate gr. 1/2 (Warning—May be habit forming), Phenacetin gr. 2 1/2, Aspirin gr. 3 1/2, Caffeine gr. 1/2.

keeps the promise of pain relief

'B.W. & Co.' narcotic products are Class "B", and as such are available on oral prescription, where State law permits.

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Roniacol® Timespan®
(nicotinyl alcohol tartrate)



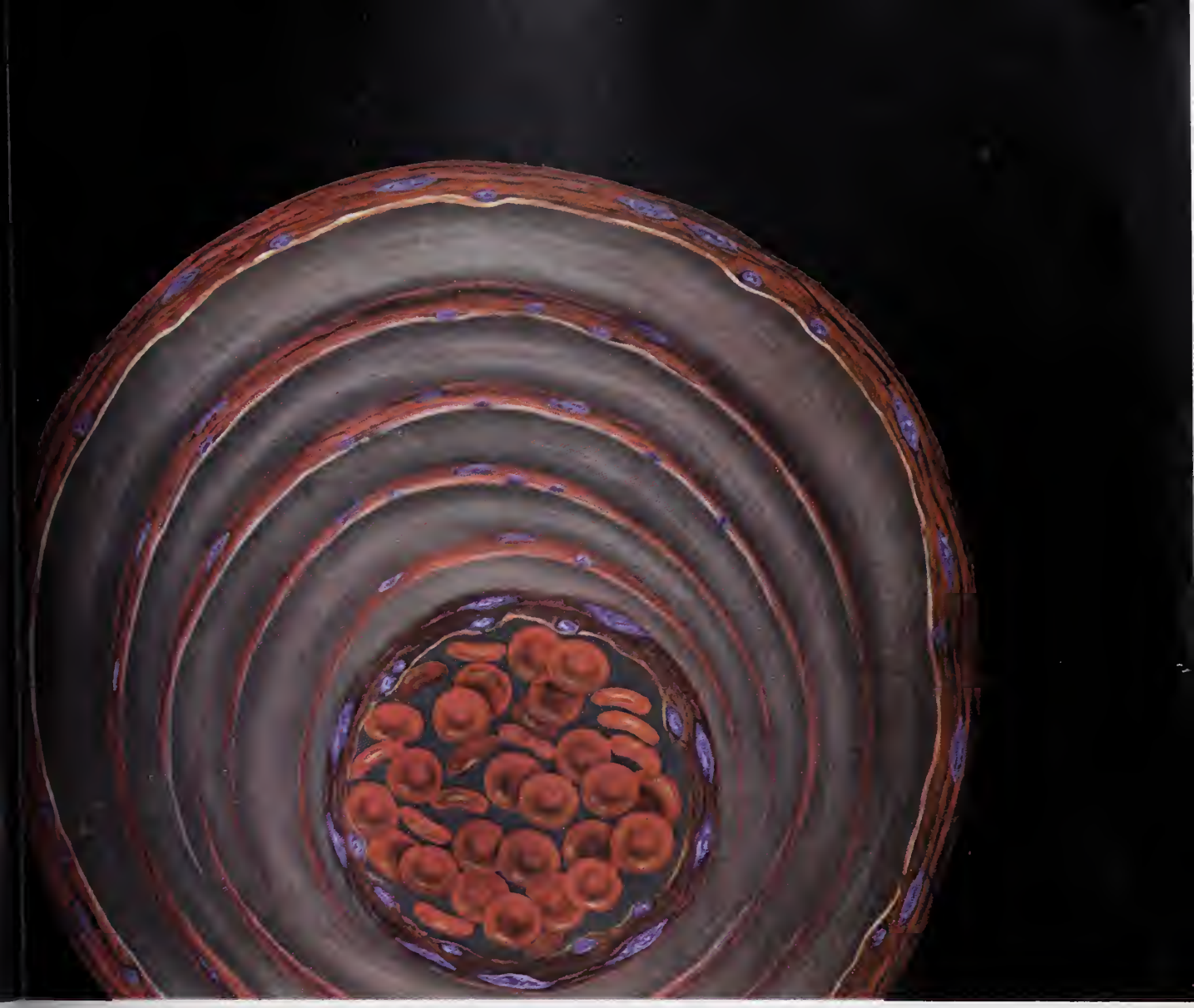
Because peripheral vasodilati is needed now... and must often be continued

Roniacol Timespan (nicotinyl alcohol tartrate) can make a significant contribution to effective treatment of peripheral vascular disorders. It is directed specifically toward improvement of peripheral blood flow, relief of ischemic symptoms, and the long-term management of these conditions.

Specific pharmacologic action—Roniacol (nicotinyl alcohol) acts selectively by relaxing smooth muscle of peripheral blood vessels. Onset of action is smooth and gradual, rarely causing severe flushing.

Relative freedom from side effects—Side effects that may occur occasionally with Roniac seldom require discontinuation of thera

Prolonged, continuous drug release—Pr longed peripheral vasodilation is provid sustained-release Roniacol Timespan (ni alcohol tartrate) Tablets. Part of the dru comes available immediately, the remai continuously over a period of up to 12 h and dilation of constricted peripheral ve usually maintained. Thus, with a single medication, patients can enjoy the bene increased peripheral blood flow in isch extremities for up to 12 hours.



Smooth peripheral vasodilation from initial dosage...extended with simple, well-tolerated, b.i.d. dosage

The prolonged action of Roniacol Timespan (nicotinyl alcohol tartrate) together with its other benefits offer a therapeutically practical measure in the long-term management of peripheral vascular disease—advantages especially important for older patients.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Conditions associated with deficient circulation; e.g., peripheral vascular disease, vascular spasm, varicose ulcers, decubital ulcers, chilblains, Meniere's syndrome and vertigo.

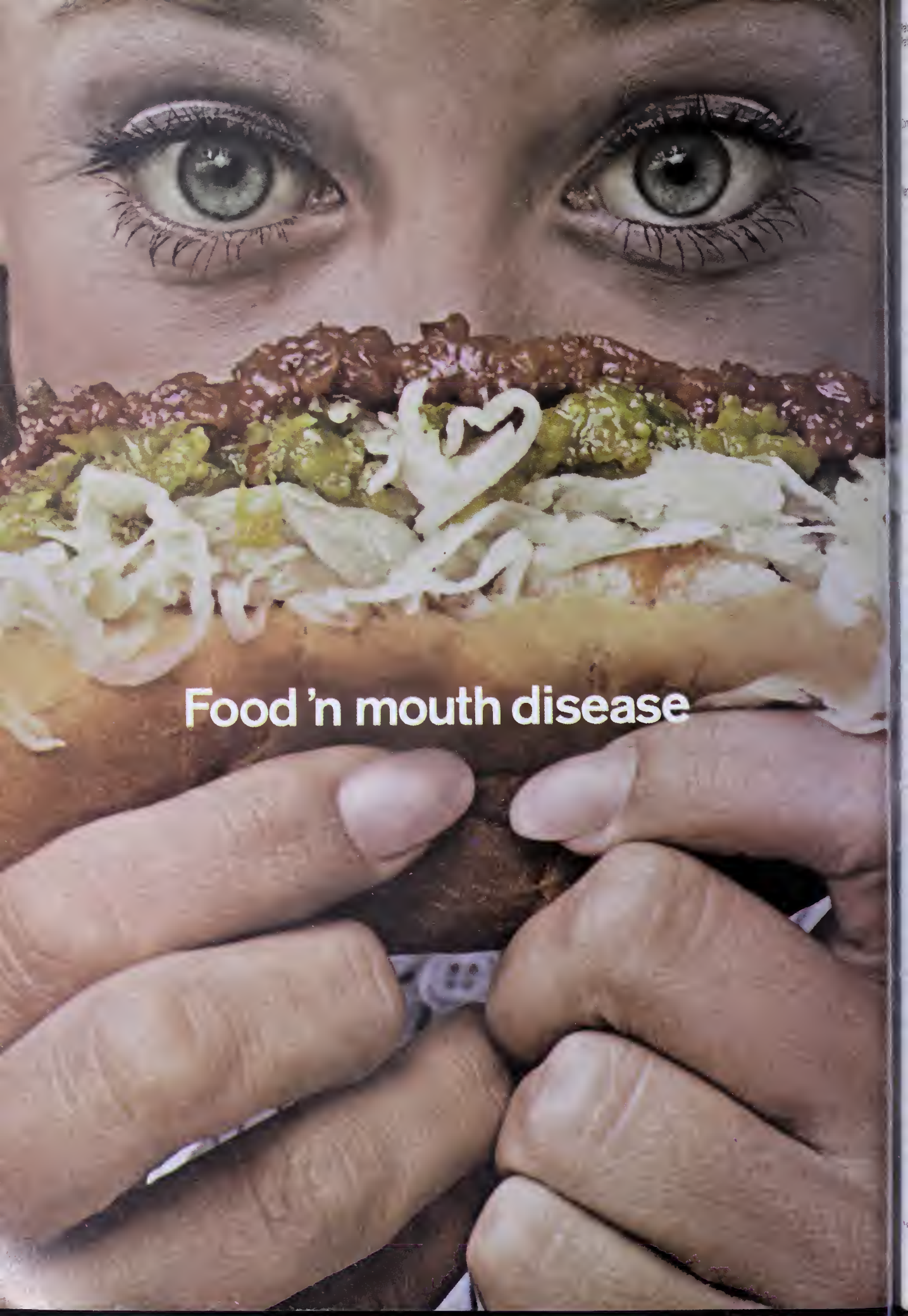
Caution: Roche Laboratories endorses caution in the administration of any therapeutic agent to pregnant patients.

Side Effects: Transient flushing, gastric disturbances, minor skin rashes and allergies may occur in some patients, seldom requiring discontinuation of the drug.

Dosage: 1 or 2 Timespan Tablets—150 mg nicotinyl alcohol in the form of the tartrate salt—bottles of 50 and 500.

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LABORATORIES
Division of Hoffmann - La Roche Inc.
Nutley, New Jersey 07110

Art is a conception of peripheral vasodilation.


Food 'n mouth disease

Preludin® phenmetrazine hydrochloride

Preludin is indicated only as an anorexigenic agent in the treatment of obesity. It may be used in simple obesity and in obesity complicated by diabetes, moderate hypertension (see Precautions), or pregnancy (see Warning).

Contraindications: Severe coronary artery disease, hyperthyroidism, severe hypertension, nervous instability, and agitated prepsychotic states. Do not use with other CNS stimulants, including MAO inhibitors.

Warning: Do not use during the first trimester of pregnancy unless potential benefits outweigh possible risks. There have been clinical reports of congenital malformation, but causal relationship has not been proved. Animal teratogenic studies have been inconclusive.

Precautions: Use with caution in moderate hypertension and cardiac decompensation. Cases involving abuse of or dependence on phenmetrazine hydrochloride have been reported. In general, these cases were characterized by excessive consumption of the drug for its central stimulant effect, and have resulted in a psychotic illness manifested by restlessness, mood or behavior changes, hallucinations or delusions. Do not exceed recommended dosage.

Adverse Reactions: Dryness or unpleasant taste in the mouth, urticaria, overstimulation, insomnia, urinary frequency or nocturia, dizziness, nausea, or headache.

Dosage: One 25 mg. tablet b.i.d. or t.i.d. Or one 75 mg. Endurets tablet a day, taken by midmorning.

Availability: Pink, square, scored tablets of 25 mg. for b.i.d. or t.i.d. administration, in bottles of 100 and 1000.
Pink, round Endurets® prolonged-action tablets of 75 mg. for once-a-day administration, in bottles of 100 and 1000.
(B)R3-46-560-B

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For complete details, please see full prescribing information.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York 10502

For some, obesity can be a serious complication of moderate hypertension, diabetes, or pregnancy.

Preludin may be used to curb appetite in obesity associated with such conditions.

For use during pregnancy, please consult Warning paragraph. The use of Preludin in moderate hypertension should be accompanied by caution. In diabetes, the drug does not increase insulin requirements (requirements may be reduced as weight is lost).

One 75-mg. Endurets tablet taken between breakfast and midmorning will usually provide daylong and early-evening suppression of appetite.

Preludin® phenmetrazine hydrochloride Endurets® prolonged–action tablets

PR-6611

THE BREAKUP of a business partnership, the crack-up of a marriage, the shake-up of being fired or reduced to bankruptcy... after any significant loss or severe blow to self-esteem, *both* anxiety and depression almost always follow.



FOR MODERATE TO SEVERE ANXIETY WITH COEXISTING DEPRESSION

TRIAVIL®

TRANQUILIZER-ANTIDEPRESSANT

Containing perphenazine and amitriptyline HCl

For prescribing information, including indications, contraindications, warnings, precautions, and side effects, please see following page.



FOR MODERATE TO SEVERE ANXIETY WITH COEXISTING DEPRESSION

TRIAVIL®

TRANQUILIZER-ANTIDEPRESSANT

Containing perphenazine and amitriptyline HCl

TRIAVIL®2-25: Each tablet contains 2 mg. of perphenazine and 25 mg. of amitriptyline hydrochloride.

TRIAVIL®4-25: Each tablet contains 4 mg. of perphenazine and 25 mg. of amitriptyline hydrochloride.

TRIAVIL®2-10: Each tablet contains 2 mg. of perphenazine and 10 mg. of amitriptyline hydrochloride.

TRIAVIL®4-10: Each tablet contains 4 mg. of perphenazine and 10 mg. of amitriptyline hydrochloride.

INDICATIONS: Patients with moderate to severe anxiety and/or agitation and depressed mood; patients with depression in whom anxiety and/or agitation are severe; patients with depression and anxiety in association with chronic physical disease; schizophrenics with associated depressive symptoms.

CONTRAINDICATIONS: Central nervous system depression from drugs (barbiturates, alcohol, narcotics, analgesics, antihistamines); bone marrow depression; urinary retention; pregnancy; glaucoma. Do not give in combination with MAOI drugs because of possible potentiation that may even cause death. Allow at least 2 weeks between therapies. In such patients therapy with TRIAVIL should be initiated cautiously, with gradual increase in the dosage required to obtain a satisfactory response.

WARNINGS: Patients should be warned against driving a car or operating machinery or apparatus requiring alert attention, and that response to alcohol may be potentiated.

PRECAUTIONS: Suicide is always a possibility in mental depression and may remain until significant remission occurs. Supervise patients closely in case they may require hospitalization or concomitant electroshock therapy. Untoward reactions have been reported after the combined use of antidepressant agents having various modes of activity. Accordingly, consider possibility of potentiation in combined use of antidepressants. Not recommended for use in children. Mania or hypomania may be precipitated in manic-depressives (perphenazine in TRIAVIL seems to reduce likelihood of this effect). If hypotension develops, epinephrine should not be employed,as its action is blocked and partially reversed by perphenazine. Caution patients about errors of judgment due to change in mood.

SIDE EFFECTS: Similar to those reported with either constituent alone.

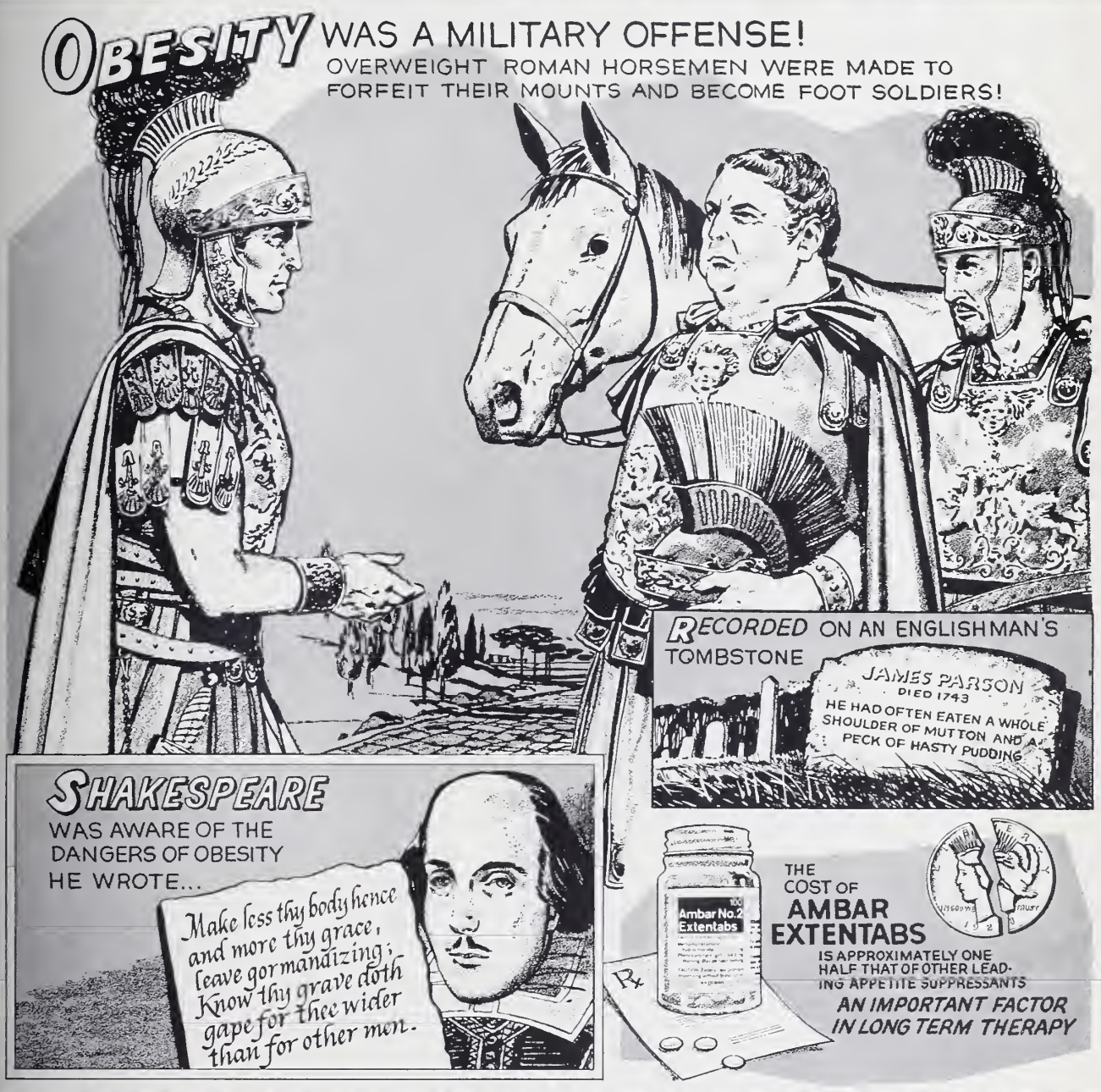
Perphenazine: Should not be used indiscriminately. Use caution in patients with history of convulsive disorders or severe reactions to other phenothiazines. Likelihood of untoward actions greater with high doses. Closely supervise with any dosage. Side effects may be any of those reported with phenothiazine drugs: blood dyscrasias (pancytopenia, thrombocytopenic purpura, leukopenia, agranulocytosis, eosinophilia); liver damage (jaundice, biliary stasis); extrapyramidal symptoms (opisthotonos, oculogyric crisis, hyperreflexia, dystonia, akathisia, dyskinesia, parkinsonism) usually controlled by the concomitant use of effective antiparkinsonian drugs and/or by reduction in dosage, but sometimes persist after discontinuation of the phenothiazine; severe acute hypotension (of particular concern in patients with mitral insufficiency or pheochromocytoma); skin disorders (photosensitivity, itching, erythema, urticaria, eczema, up to exfoliative dermatitis); other allergic reactions (asthma, laryngeal edema, angioneurotic edema, anaphylactoid reactions); peripheral edema; reversed epinephrine effect; endocrine disturbances (lactation, galactorrhea, disturbances of menstrual cycle); grand mal convulsions; cerebral edema; altered cerebrospinal fluid proteins; polyphagia; paradoxical excitement; photophobia; skin pigmentation; failure of ejaculation; EKG abnormalities (quinidine-like effect); reactivation of psychotic processes; catatonic-like states; autonomic reactions such as dryness of the mouth, headache, nausea, vomiting, constipation, obstipation, urinary frequency, blurred vision, nasal congestion, and a change in the pulse rate; hypnotic effects; pigmentary retinopathy; corneal and lenticular pigmentation; occasional lassitude; muscle weakness; mild insomnia; significant unexplained rise in body temperature may suggest intolerance to perphenazine, in which case discontinue. Antiemetic effect may obscure signs of toxicity due to overdosage of other drugs or make diagnosis of other disorders such as brain tumors or intestinal obstruction difficult. May potentiate central nervous system depressants (opiates, analgesics, antihistamines, barbiturates, alcohol), atropine, heat, and phosphorous insecticides.

Amitriptyline: Careful observation of all patients recommended. Side effects include drowsiness (may occur within the first few days of therapy); dizziness; nausea; excitement; hypotension; fainting; fine tremor; jitteriness; weakness; headache; heartburn; anorexia; increased perspiration; incoordination; allergic-type reactions manifested by skin rash, swelling of face and tongue, itching; numbness and tingling of limbs, including peripheral neuropathy; activation of latent schizophrenia (however, the perphenazine content may prevent this reaction in some cases); epileptiform seizures in chronic schizophrenics; temporary confusion, disturbed concentration, or transient visual hallucinations on high doses; evidence of anticholinergic activity, such as tachycardia, dryness of mouth, blurring of vision, urinary retention, constipation, paralytic ileus; agranulocytosis; jaundice. The antidepressant activity may be evident within 3 or 4 days or may take as long as 30 days to develop adequately, and lack of response sometimes occurs. Response to medication will vary according to severity as well as type of depression present. Elderly patients and adolescents can often be managed on lower dosage levels.

For more detailed information consult your Merck Sharp and Dohme representative or see the package circular.

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where today's theory is tomorrow's therapy

The AMBAR® SCRAPBOOK of Obesity Oddities
FACT & LEGEND



CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.)
(Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

A. H. ROBINS COMPANY, RICHMOND, VA. 23220 A·H·ROBINS

heavenly relief
for unearthly cough

Benylin®
EXPECTORANT



Each fluidounce contains: 80 mg. Benadryl® (diphenhydramine hydrochloride, Parke-Davis); 12 grains ammonium chloride; 5 grains sodium citrate; 2 grains chloroform; 1/10 grain menthol; and 5% alcohol.

An antitussive and expectorant for control of coughs due to colds or of allergic origin, BENYLIN EXPECTORANT is the leading cough preparation of its kind.

BENYLIN EXPECTORANT tends to inhibit cough reflex... soothes irritated throat membranes. And its not-too-sweet, pleasant raspberry flavor makes BENYLIN EXPECTORANT easy to take.

PRECAUTIONS: Persons who have become drowsy on this or other antihistamine-containing drugs, or whose tolerance is not known, should not drive vehicles or engage in other activities requiring keen response while using this preparation. Hypnotics, sedatives, or tranquilizers if used with BENYLIN EXPECTORANT should be prescribed with caution because of possible additive effect. Diphenhydramine has an atropine-like action which should be considered when prescribing BENYLIN EXPECTORANT.

ADVERSE REACTIONS: Side reactions may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, and blurring of vision have been reported. Allergic reactions may occur.

PACKAGING: Bottles of 4 oz., 16 oz., and 1 gal.

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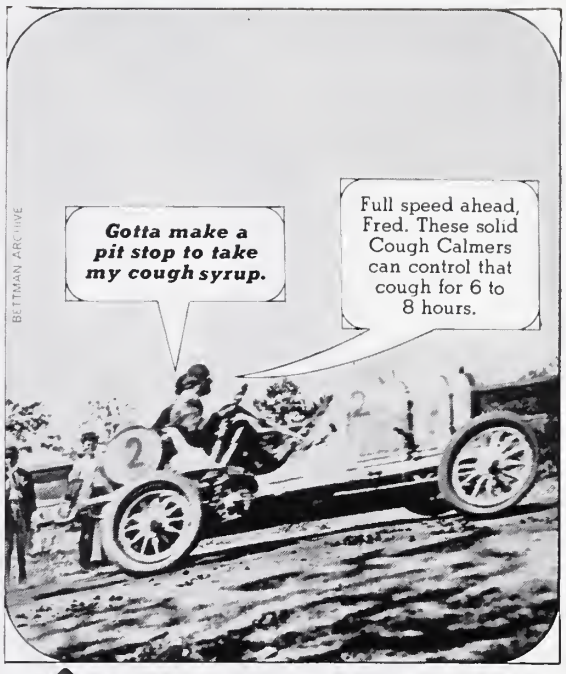
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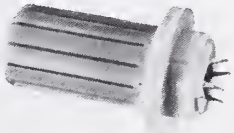
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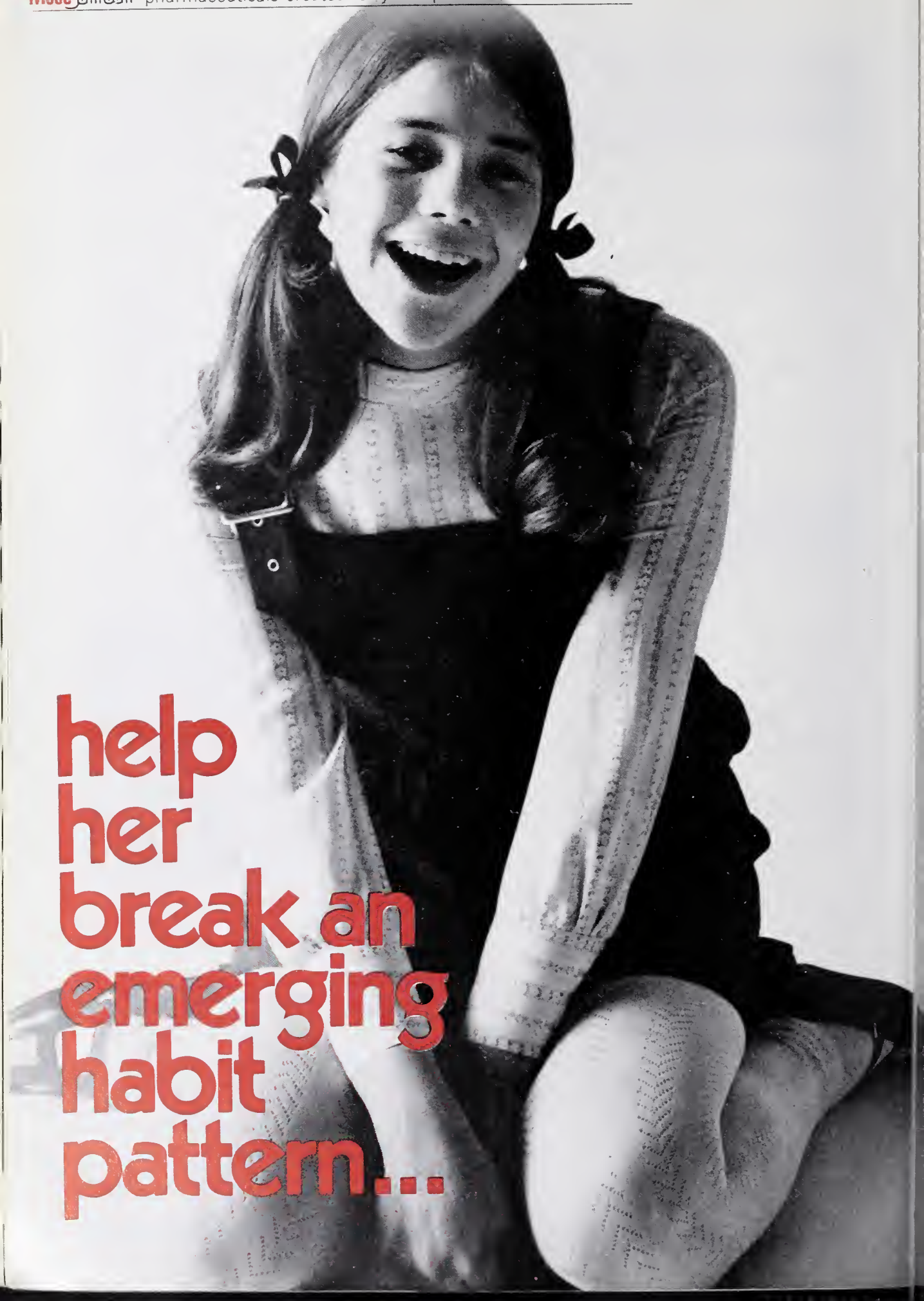


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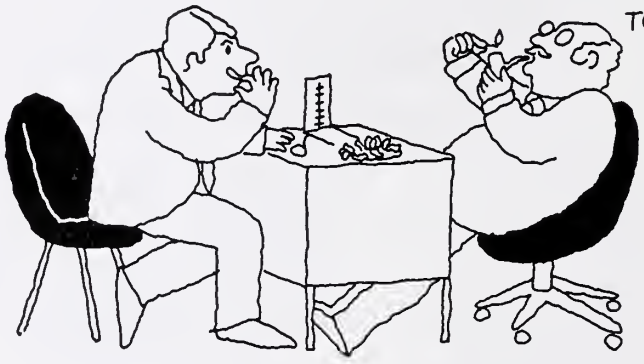
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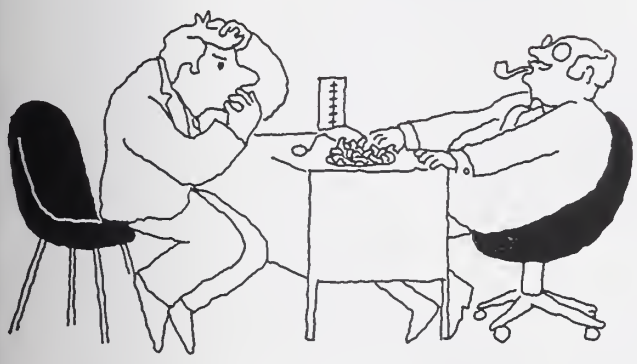


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Guest Editorial . . . .

Official Status for Physician's Assistants

(Touching on Other Matters as Well)

THE DUKE UNIVERSITY SCHOOL OF MEDICINE is graduating this fall its third class of Physician's Assistants (P.A.); eleven highly selected and intensely trained men who have been there for two full years. The Duke experience has been probably the earliest formal one although physicians have for years used self-trained people in their practices. Dr. Amos Johnson of North Carolina, a past president of the AAGP, had a feature article on his assistant in a last year's edition of Medical Economics.

At present, these men have no legal status and although there are not many of them, since the need is so great, possibly our Legislature will soon see fit to pass legislation enabling it. Under the "Captain of the Ship" doctrine in Virginia licensure is not entirely necessary in order that they function effectively since they will be closely associated with a licensed physician and working under his direction.

The shortage of physicians is certainly not news, nor is it entirely acute, dating back in some studies as early as 1926. In view of the many delays and difficulties in establishing new medical schools or expanding old ones, it has been widely suggested that we use the large pool of para-medical people being discharged from our armed services each year. This is the basis for the Duke program; all of their students to date have had four years naval experience. The man that I interviewed there and hope to bring into my office has had nineteen years in medicine, mostly served as a surgical laboratory technician in a large teaching hospital in Boston.

One-third of our new physicians presently come from overseas. Given the present circumstances, this follows the laws of supply, demand, and human nature rather than altruism for these foreign doctors whose accomplishments can only be admired and who almost always come from the highest level of achievement in their respective countries. Over the past eleven years I had four of these men associated with me in my office and have found each to be excellent.

Our city has along with the rest of this country recently undergone a substantial real increase in the standard of living, the cost of high living to the contrary never-the-less. We now support sixty-four physicians. Unfortunately, approximately two-thirds of these are sequestered into specialties in which they either do not see patients primarily or are in specialties, more or less unavailable to the ordinary sick person. Of the other one-third, one alone claims the proud distinction of being a true general practitioner, that is he delivers babies. My own office sign reads "General Surgery and Family Practice" which is certainly an effort to keep a foot in each camp. Of this one-third the rest are Internists (8) or General Surgeons (14); most are certified or board eligible. Most work by appointment which can have inherent disadvantages for the patient. Our office has never used an appointment schedule; by keeping adequate help available we are able to see patients as they come in with an average waiting period of under one-half hour as recorded by the clock and on the chart.

The well qualified, highly trained, selected, motivated Physician's Assistant should command a salary at least double that of the Registered Nurse and should be worth it. He, being masculine will be of great advantage, should head the physician's health team, straining out much of the administrative chaff that clutters up so much of the ordinary doctor's working day. That is not to say that the doctor should shield himself from the needs of his patients, although they may seem trivial. In Danville the advent of the Pastoral Counseling Service has solved to a good extent this problem.

The controversy which raged for years between RN's and LPN's seems to have simmered down now, partly at least because there is such a great need for each. It would seem then that it might be relatively easy for our Legislature to authorize the Medical Licensure Board to give these men examinations and licenses as the need arises. In informal talks with some of the members of the board, I feel that they are mainly interested and sympathetic but of necessity must follow the law as laid down by our Legislature.

PA's are mature, well educated, and dedicated. They do not wish to be known as "second class doctors" or "practitioners of medicine". They feel that they are the first in a proud tradition and will fill a real need and should be the forerunners of a larger group to follow. Their mentors at Duke Medical School have the same conviction.

As doctors become busier and as the paper work blizzard becomes more acute, we begin to realize even more that much of our work has not been truly medical. For example, I clearly remember posting patients for surgery, calling the admissions office, helping with insurance forms, etc. Several years ago, I received a letter from an insurance company informing me that I should take the routine history on their applicants in my own handwriting. My reply, I hope, was equally polite but I informed them that my nurses had more time and wrote a better hand and my way gave more time to do a better physical examination and to talk with the patient. I have heard no more from them and I think most companies are coming to this conclusion at the present time. As a generality, the more non-medical work that can be delegated the better the quality of medical work that can be done although one, of course, does not necessarily follow the other. If one has more time available he can spend more time with his patients.

There is a loud lament that the modern physician can no longer make a house call. I feel that they can sometimes be made especially if he can persuade his nurse to make the preliminary call and screen and medicate as necessary. I try to follow up in our not too large city by the use of a motor bike.

This is a plea for licensure of the Physician's Assistants to work under the direct supervision and control of our physicians. This will ease the physician's task and allow him to practice better medicine including more efficient office practice and an occasional house call. My limited contact with these young men has been most stimulating, coming as they do from one of our leading medical schools. If licensure is granted, it will give them more status as professionals and allow them to move about freely just as physicians and nurses now do.

MARTIN DONELSON, JR., M.D.

1035 Main Street
Danville, Virginia 24541

Family Planning

Its Pitfalls and Administration

JOHN CRAWFORD, M.D.
Virginia Beach, Virginia

Efforts to control the population explosion are being carried out largely in our family planning clinics. This work is so important that it deserves the support of every citizen and especially of every physician.

THE AMERICAN PUBLIC is still painfully unaware of our population problem. It cannot be emphasized too strongly that the crisis is not just impending—it is already here. It is imperative that our family planning endeavors be accelerated greatly and made far more efficient than they are at the moment. For several years I have been serving clinics in five cities and twelve counties in Eastern Virginia and North Carolina. The problems encountered in the administration of these units form the basis of this presentation and emphasize those conditions and persons that are the fissure in ano of the family planner.

The State Health Department, realizing the gravity of the situation, has made birth control its number one program. The annual geometrical increase in the number of patients attending its clinics is ample evidence of the need for family planning and not an optimistic index of the success of this endeavor. As will be shown later on the surface has not even been scratched.

The local health officer is responsible for the execution of such a program. The cooperation of the local physicians is a reflection of his public relations. His energy in establishing clinics will be manifested in a declining birth rate in his district. His personal philosophy may well negate his efforts should he be overly concerned with accusations of Afro-American genocide or fearful that some woman may use the IUD as an instrument of abortion. Neither of these spectors have haunted us so far. One health officer will not permit contraceptive advice to be given to unmarried women. He is of the opinion that the threat of pregnancy will make them less promiscuous and will lessen the spread of venereal disease. This concept is completely outmoded and deprives those of our services who need them most.

TABLE 1

PATIENTS ATTENDING CLINICS

YEAR	MATERNITY	FAMILY PLANNING
1960	34,020	250
1961	35,550	525
1962	30,627	1,525
1963	31,262	2,253
1964	38,504	6,606
1965	43,595	12,745
1966	37,918	25,198

Equally important on the local level is the public health nurse. Unless she is enthusiastic about family planning and if she is not thoroughly sold on the pills and the IUD and if she does not have an inspiring approach to her patients, she should use her talents elsewhere.

The spoils system has no place in public health. Unfortunately it does exist with detrimental effects upon the services rendered.

Since we are dealing with the indigent,

Presented at the annual meeting of The Medical Society of Virginia, Roanoke, October 1968.

our contacts with the Welfare Department are frequent and sometimes leave much to be desired. Sterilization is often denied a woman because no one will pay her medical bill. Physicians should be compensated for services rendered—even a token fee would entice them to perform tubal ligations with greater alacrity. Funds are badly needed to provide drugs and hospitals care for those developing troubles as a result of contraceptive measures or having clinical problems that are concurrent with them. Our clientele are apt to equate the latter to complications and not to unrelated pathological states and hence will abandon our efforts to help them.

The contribution of the medical profession is this State can be summed up as follows: "You have left undone those things that you ought to have done and you have done those things you ought not to have done." Instead of being leaders in this program the general attitude of the doctors has been one of apathy or even open antagonism.

It is common for all patients to incriminate contraceptive practices as the etiology of their complaints. The physician frequently compounds this situation by a similar assumption even though the pill or IUD are entirely innocent. It would be far better if these patients were referred back to the clinic where they were first seen. Then the situation can be evaluated and such therapy as need can be instituted—or the woman reassured, as the case may be. Failing this the clinic is blamed for her ills and she never returns, thus defeating our purpose. This easily occupies first place in decreasing the efficiency of any birth control program. Since physicians encounter these patients in their offices it is well that they become cognizant of the problems as we in public health work see them.

Vaginitis is the number one bane of womankind. There is absolutely no relationship between it and any known form of contraception. Yet many a patient has been taken off the pill because it was thought to be a factor in the persistence of symptoms. Likewise removal of the IUD is demanded as the woman has been told she "has an infection" due to its presence—even though its insertion antedated her complaints by months or years. While the diagnosis and therapy of vaginitis are not germane to this article, the two prominent reasons in failing to cure it are; first, not examining the patient, and secondly, not treating the woman vigorously enough for a long enough period of time. If she itches and/or has a discharge, please do not alter her contraceptive status.

The number two problem is irregular or prolonged bleeding. If this is associated with the use of the oral contraceptives usually they are being taken incorrectly or chronic break-through bleeding or functional bleeding exists. If two pills a day for 10 days do not control it then the patient should have a D & C. If this occurs in a patient having an intrauterine device, the instrument is at once indicted and its removal requested. Here again two pills a day for 10 days will often produce a cure. If they do not then do a D & C at which time the instrument can be removed and replaced by a new one. Seventy five per cent of the time this produces a cure leaving the patient satisfied with her surgical martyrdom and society protected.

Pelvic inflammatory disease is still a common ailment of our clinic population. The intrauterine device is seldom, or never, a causative factor especially when it has been in-situ for a long period of time.

TABLE 2

GONORRHEAL CULTURES

Number taken	360
Positive	27
Acute symptoms after insertion	1
Mild symptoms after insertion	1
Asymptomatic	25

In recent months in several places we have been doing cultures routinely for gonococci on all patients. It is surprising how seldom the insertion of a device through a

gonorrheal infested vagina causes a serious spread or flare-up of the disease.

In nearly 3,000 women who had IUD's placed in the uterus, I can recall only two fulminating cases that came on shortly after it was done. In a few cases some of the patients have complained of menstrual-like cramps, while the majority had no symptoms at all. These disappeared when specific therapy was used. In retrospect I am certain many of the devices we have removed in years past because of chronic cramping could have been left alone had we used antibiotics. Many of these patients must have had a low-grade case of gonorrhea. In those patients exhibiting acute pelvic pain and/or bleeding it is best to forget the IUD and use penicillin and mycins freely.

A short while ago a patient came into the emergency room of a local hospital. She had severe lower abdominal pain, high temperature, a purulent discharge, adnexal tenderness and discomfort on ballotment of the cervix. The doctor attempted to remove the gadget that had been in place for some time but could not find it, so he loaded her down with penicillin and sent her home. When seen in the clinic several days later she was almost well but had a sausage shaped mass on the left side. She received more of the drug and has recovered. She also still has the IUD where it is doing society the most good and the mass has disappeared.

The Hod-Carriers Syndrome is another headache to family planning. Anyone carrying around bricks all day long is bound to hurt somewhere. There is no difference between 100 lbs. of bricks and a like amount of blubber. Before incriminating the intrauterine device as the etiology of lower quadrant and sacral pains, consider congenital orthopedic defects, chronic backstrains, postural abnormalities, overwork and grand multiparity as the possible causes of the patients compaints.

All too frequently we see patients several months pregnant who were not given the pill because her physician was waiting for her first period to start. Give the contraceptive any time before the 15th day post partum. She will be protected and if her milk does dry up we can always substitute the services of the cow.

Another problem blamed on the devices is cystitis which proper therapy solves in almost all instances. I would strongly urge that all female patients be catheterized as a voided specimen is worthless. I am satisfied there is no such thing as a "clean catch". A #10 glass catheter is atramautic and most of the time rather painless. You can do the bladder no harm if it is emptying completely and freely.

A small number of patients, especially of low grade intelligence, will refuse the insertion of an IUD because of fear or modesty. They are the ones who need it most and the Welfare Department would do well to invest in a small hospital bill. A few whiffs of nitrous oxide in the emergency room and the job is complete. There is a great difference between the cost of this and one or several children on relief.

Last and not least—do not forget the lost Tampax. It can and has caused its usual symptoms. Its removal takes the blame and the patient's mind off the IUD.

The printed and spoken word is man's best friend, and our worst enemy. Every ailment, known or unknown, has some form of contraceptive endeavor as its origin. Recently in one of our clinics we were flooded with requests that the IUD be removed. This originated with a patient whose vision was affected by sarcoidosis. By some strange deduction on her part, this was caused by the loop she was wearing.

Every woman who gets pregnant is a potential source of trouble. In one of our rural clinics over a hundred loops had been inserted over a two year period. One failure resulted in requests from about 25 patients that some other form of birth control be given to them. We are blessed that those who become mothers while using the pills do not blame it for their misfortune.

We are continually fighting the battle of the thrombus and now pill-induced hypertension has come to its aid. I am almost persuaded that every pain below the naval is phlebitis, it is so frequently diagnosed. Why some doctors cannot prescribe a vaginal foam or jelly when they take a patient off oral contraceptives is a mystery. Perhaps their practices are devoted only to celebates. Even if the literature can incriminate the pill as an etiological factor in high blood pressure and embolism (and this may be doubtful) the incidence of these phenomena are so rare that we are not going to change our habits in prescribing this form of protection. When compared to the obstetrical mortality rates (especially among the elderly multiparas) deaths from these conditions are almost zero.

The clinic patient has traditionally been regimented and at best given only a modicum of personal attention. Perhaps little can be done to better the physical surroundings of our Health Departments but our services can be improved vastly by treating the patients with courtesy and kindness. All too often they are made to wait too long or are forced to undergo great hardships to reach the clinic. Transportation should be improved and made more easily available. Oral contraceptives could be mailed to our clientele in the rural areas. All this does a great deal to improve public relations and facilitates our efforts to educate them.

The Lippe's Loop is the IUD most commonly used. For those who cannot retain another type of device the large Birnberg Bow still is the one of choice because of its low rejection rate. Care must be taken not to insert it in the first four to six months of the post partum period because of the increased danger of perforation. Every Health Department should keep a Birnberg Hook on hand. At infrequent intervals the strings attached to IUDs will retract into the uterine cavity. This instrument is without peer in removing a device under these conditions. Occasionally a loop refuses to go in. Shift to a Saf-T-Coil and you will be surprised how easily it falls into place as it is not as stiff and its curve is smaller. The new packaged IUDs are superior to the older ones in their ease of insertion and are worth the extra cost.

For intelligent patients who use an intrauterine device as a matter of necessity or choice, I urge them to reinforce this with a vaginal foam before each sexual act. I hope this will reduce the number of contraceptive failures inherent to this method of birth control. This has been my office routine for about two years, and I do not know of any pregnancies that have occurred.

There is a great need for more educational effort among our clientele. The Public Health personnel do a wonderful job but they have so many commitments they often need help. The Welfare Department has found that they can take patients from the indigent who, with proper training, can frequently reach their own kind far better than the professional case worker. In recent months I have been working with such a colored woman in whom I had inserted an IUD over five years ago. Early in December of 1967, I put a Lippe's Loop in a woman of her race who appeared to be in excellent health. A few weeks later she returned distended with ascites and with two large masses in the abdomen. A short while later she was dead with an ovarian cancer. Under these circumstances we should have been flooded with requests that devices be removed. Foreseeing this our worker was sent into the area to interview all our contacts. She was so successful that we have yet to remove the first IUD and business flourishes there as usual.

A more aggressive approach must be taken toward sterilization and social indications be made paramount to medical reasons. Our system in this State is too slow and cumbersome for modern social needs. In my own judicial circuit sterilization of the indigent has come almost to a standstill. Not only must we operate on the

patient for nothing but the Bar Association insists that the physician give his deposition against the feeble-minded defendant or appear in court as a witness, when heretofore a letter about the case was accepted as sufficient evidence. The irony of it all is the court-appointed attorney gets a fee of $35 for very little work. North Carolina has created a special administrative board to handle such matters and it functions much more efficiently than our system.

The general public must realize that not every one can be educated and much of our permissive attitude towards our less fortunate citizens must be changed. The number of unwed mothers has steadily increased over the past few years especially in the cities. Approximately one birth in nine is illegitimate. Of these one third will have other pregnancies illicitly. Of these bootleg gestations 75% will be born to mothers under 20 and 90% under 25. Nine tenths of this group is colored which represents our largest problem.

TABLE 3

Births in Virginia

	1960	1967
Total	89,350	82,775
White	65,835	62,769
Colored	23,516	20,006
Illigitimate Birth Rates		
Total	7560	9178
White	1809	2907
Colored	5751	6271

Note the decrease in the total birth rate and in both races. There is an increase in the illegitimate rate and is much greater among whites.

TABLE 4

Illegitimate Birth Rates

	1960	1963	1967
Richmond			
White	92	116	137
Colored	769	682	829
Norfolk			
White	135	151	176
Colored	609	692	712

This shows the increase among the whites in our largest urban areas.

TABLE 5

Illegitimate Birth Rates

	1960	1963	1967
Southampton			
White	1	1	4
Colored	138	127	113
Greeneville			
White	0	1	2
Colored	63	60	53
Virginia Beach			
White	24	58	93
Colored	109	157	96

This contrasts the static rate in two rural areas as compared with the increased rate in an urban area.

It is very obvious to all who work in family planning that much of this results from failure to reach these persons. They return to our maternity clinics year after year repeatedly pregnant out of wedlock accounting for 30-50% of such cases in some areas.

This shows the high rate of repeated illegitimate pregnancies in a rural area 35-40%.

A repetition of Table 6.

You will notice a steady and satisfactory drop in the birth rate among the indigent

TABLE 6

Westmoreland County Births

Year	Total	White	Colored	Illegitimate	Repeaters %
1963	281	112	169	61	33
1964	244	93	151	63	41
1965	229	70	159	66	39
1966	228	78	150	67	43
1967	230	87	143	66	38

TABLE 7

Carolina Counties

County	Births White	Births Colored	Illegitimate White	Illegitimate Colored	Repeaters White	Repeaters Colored
Camden	52	35	1	13	1	4
Chowan	97	89	3	31	1	8
Pasquotank	236	214	9	49	3	15
Perquimans	73	57	1	20	1	8

Illegitimate Under 20 ..... 75%
Illegitimate Under 25 ..... 90%

in Virginia Beach, Chesapeake and Southampton and little or no change in Greeneville, Richmond and Norfolk.

TABLE 8

Virginia Beach Birth Rate

	1960	1963	1967
Indigent	433	488	305
Illegitimate	133	195	189

Virginia Beach—drop indigent birth rate —no change in illegitimate birth rate.

TABLE 9

Chesapeake Birth Rate

	1960	1963	1967
Indigent	689	622	468
Illegitimate	209	217	203

Same in Chesapeake.

TABLE 10

Southampton-Franklin Birth Rate

	1960	1963	1967
Total	746	679	432
White	236	202	146
Colored	510	477	117
Illegitimate	139	128	117

Same in this area.

TABLE 11

Greeneville Birth Rate

	1960	1963	1967
Total	348	372	337
White	129	130	103
Colored	219	242	234
Illegitimate	63	63	55

Marked drop in Southampton and none in Greeneville.

TABLE 12

Norfolk Birth Rate

	1960	1963	1967
Indigent	2514	2720	2226
Illegitimate	744	843	888

Very little progress.

TABLE 13

Richmond Birth Rate

	1960	1963	1967
Indigent	2617	2505	2204
Illegitimate	861	798	966

Richmond—same as Norfolk.

This demonstrates what can be done with a well run program. However you will also observe that the illegitimate birth rate in these areas has remained almost constant and is highly indicative of our failures. This can be seen also in Albemarle, Lynchburg and Roanoke. In the last two there is a good reduction in the total birth rate but it is at the expense of a drop among the whites. This is true Statewide.

TABLE 14

Albemarle-Charlottesville Birth Rate

	1960	1963	1967
Indigent	289	295	240
Illegitimate	94	101	119

Albemarle—very little progress.

Lynchburg—good drop in total rate but all white.

TABLE 15

Lynchburg Birth Rate

	1960	1963	1967
Total	1247	1105	842
White	942	822	571
Colored	305	283	271
	Illegitimate		
White	74	56	38
Colored	97	95	104

TABLE 16

Roanoke Birth Rate

	1960	1963	1967
Total	2045	1797	1588
White	1625	1421	1151
Colored	420	376	437
	Illegitimate		
White	53	78	83
Colored	109	109	168

Roanoke—same.

The following cases have been selected to further emphasize the problems that beset family planning. They are all receiving help from the local Welfare Department and the home conditions are miserable at best. With the exception of Case 4 who is moderately intelligent, the others are probably moronic.

Case 1. This 33 year old woman had three illegitimate children and developed a positive Pap smear. A D & C and cone biopsy of the cervix revealed a carcinoma-in-situ. She was discharged to return for a hysterectomy six weeks later. She disappeared and several months later was found living in common-law with a man in another county. All efforts to persuade her to accept therapy were to no avail and she has been lost to follow-up. This has been several years ago and by this time she probably has other children and/or, has developed an invasive lesion.

Case 2. This is a gravida 15 without a husband, in her late thirties who had her last baby in the back yard and was then brought to the hospital and admitted although she had no complications. She never received any prenatal care and steadfastly refuses to come to the Health Department for contraceptive advice.

Case 3. This is a woman in her early thirties who is unwed and has two children and is a moderately severe diabetic of several years standing. She also has a labile hypertension and consistently refuses sterilization. She is taking oral contraceptives and will not consider an IUD. However, her intelligence is such that it is questionable whether she will use them correctly or for a long enough period of time.

Case 4. This woman is in her early twenties and was once married. Her husband has deserted her and it is doubtful if he is the father of any of her children which are four in number. She accepted an IUD at one time but insisted on its removal as she was convinced it caused a low backache. Her last two children resulted from her attempts at oral contraceptives. She is now living with another man and possesses a large color TV.

There must be many psychic and sociological reasons for this but much can be blamed on lack of intelligence or absence of a sense of responsibility on the part of the individual. It is high time that drastic changes be made in our policies and some form of coercion be considered if we are going to make birth control effective where it is needed most urgently.

If these persons are going to be made better members of our community they must abide by certain standards of conduct. It is impossible to keep abreast of their needs if they are constantly increasing at a greater rate than our ability to help them and they in turn make no effort to assist themselves.

It is our duty, as Christians, to shelter the homeless, to clothe the naked and to feed the hungry and, if we are advocates of the American way of life, we must accept integration, open housing and equal economic opportunity. However, I do not feel obliged to subsidize their fornication.

It is estimated that each illegitimate child

on relief costs the tax payers $20,000 over an 18 year period. This money is largely thrown away as now administered and is not even a down payment on the social evils this child represents and perpetuates. There are about 15,000 families in Virginia receiving ADC funds. One quarter have more than one illegitimate child and 10-15% have three or more. This is only one facet of a very complex program of modern civilization. We represent the leaders of our society and it is high time we do something about it by eliminating our excess inertia.

I wish to acknowledge the help of the following for their efforts in making this presentation possible: Drs. R. W. Jessee and William Y. Garrett of the State Health Department and Mr. Dean Huxtable, the State Registrar, in addition to Drs. Madge May, E. H. Joy, C. M. G. Buttery, Ella T. Roberson, Carol Hogg, W. H. Bandy and A. G. Oliver, the local Health Officers with whom I am associated. Mr. Maurice Thorn and Miss Elizabeth Allen supplied statistics from Westmoreland County and Eastern North Carolina respectively. The nurses and clerks of the various clinics involved deserve equal recognition with the foregoing for their assistance.

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There Must Be Some Mistake

Editor, The News Leader:

I was going through my pockets last night and found something I'm at a loss to explain. A genuine, United States ten dollar bill. Obviously, I've made a mistake and overlooked a tax.

I've paid my income tax, State tax, city tax, surcharge tax, unemployment tax, Social Security tax, personal property tax, real estate tax, sales tax, amusement tax, gasoline tax, road tax and license tax.

I distinctly remember paying the liquor tax, cigarette tax, school tax, utility tax, welfare tax, and I'm positive I've paid my taxes for fire protection, law enforcement, and garbage collection. I've paid my taxes for a line to bring water into my home, and sewer to take it away.

I checked back and found that I have paid my excise tax, luxury tax, defense tax, and even a tax to provide more scholarships for kids to go to college so that they can grow beards, demonstrate, riot, destroy, make fools of college presidents, and protests against idiots like you and me.

I've paid my taxes for the Rockefeller trip, the Godwin trip, plane fare for vacationing Congressmen and publicity for the Birds of Texas.

I'm bewildered as to how this ten dollar bill got into my pocket. Did someone put it there, just to cause me trouble? Is there a tax when you suddenly discover money like this? I'm not really sure, but I believe I'll keep it hidden until it becomes time to pay my tax for registering my gun that I have to keep in my home for the protection of my wife and kids.

Please keep this whole thing confidential for I am certain the government will be plenty sore if they find out that I have it.

BEN E. WALKER

Ambulatory Pediatric Care in a Rural Setting

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The problems involved in providing pediatric care in a rural setting are not the same as those found in an urban center. These problems are being studied and solutions are offered.

THE MAJOR EMPHASIS today in pediatric care appears to be focused on the urban indigent population. There is another group of indigent children that deserve medical care, but because of the small numbers in any one locality, they are often overlooked by major health care programs. This group consists of the rural population, as well as children in the small communities across the country that have no medical center or other diagnostic medical facility.

The needs of these children, as well as a plan for providing care for them, is the subject of this discussion.

Needs of the Patients

There are two points of view as to the needs:

1. What the parents think their children need in terms of medical care, and
2. What the physician, community, and country think are the medical care needs of these children.

A parent's interest is usually related to socio-economic status, educational background, environmental factors and availability of adequate services. Their interest can be stimulated through the schools, by local health departments, church and community programs and news media. The effect of such interest stimulation can only be realized if the parents involved are reached and understand the need. In other words, indigent rural populations have pride and cannot be overwhelmed by sophistication, if one expects to achieve success.

As can be seen, any approach must be at the "grass roots" level. School health programs, visiting nurse services, family doctor counseling, clergy and physicians, cooperative effort, grange and other social organization sponsorship are some of the means of disseminating information and leading to early case referral. This must be approached from the point of view of understanding and cooperation, not of aggressive social reform.

As previously stated, needs of these patients may not be the same as those of the urban patient. For adequate care, it is necessary to have available a medical center where the needs of a child can be fulfilled. Transportation often is not available. A telephone for appointments, information, and follow-up often is non-existent. Even letter writing with assured mail delivery and comprehension of the contents is not always possible. Folklore, customs, prejudices and fear are all barriers that must be overcome. Remember, this is not Africa, or the upper regions of the Andes, but rural United States.

The medical center facilities must be able to cope with the many and varied needs of the child, both social and professional. Although the medical needs are met in most centers, the availability of prompt and complete facilities for diagnosis, treatment and support with supervision must be provided.

This is the problem that is unique in caring

for rural populations. Overnight accommodations, food services, complete ambulatory clinics, and laboratory facilities in association with support by social service require new avenues of approach.

Transportation is one obstacle that often requires community effort. Baby sitting in the city mushrooms to live stock tending as well as baby sitting in the country. The loss of two adult breadwinners in many instances for two to three days becomes a major problem. Thus the importance of coordinated, readily available consultations, laboratory evaluations and lodging accommodations become increasingly apparent.

In a medical center so oriented and organized, a complete diagnostic evaluation should be accomplished with one overnight visit. An overnight stay in a nearby motel-like accommodation can be accomplished with a minimum of expense and upheaval to family tranquility. With adequate planning, all diagnostic procedures and testing, including psychological evaluation and special x-ray and chemical analysis, can be carried out and the family returned home by the second night.

Pediatric patients lend themselves to this type diagnostic evaluation much more readily than adult patients, since the parents can act as nurse and attendant much of the time. An understanding and cooperative house staff and attending staff are also essential. Hospital administrators are cooperative due to the small number of 24-48 hour admissions and discharges with the attendant clerical and housekeeping chores that are required. This approach also releases beds for the more long term and acutely ill patients.

A Plan for Ambulatory Care

We have attempted to implement our facilities at the University of Virginia Pediatric Out-Patient Clinics to meet the needs outlined above. This, by necessity, is a cooperative effort with the Children's and Youth Center, Pediatric General Diagnostic and Specialty Clinics, Laboratory Services, Radiology Services, Diagnostic and Special Procedure Radiology Departments. The availability of a nearby motel and cafeteria have been paramount in our effort.

Case finding and referrals by public health nurses, school nurses and teachers, clergy and civil authorities, along with family doctors and health programs all have aided us in delivering care to these children. Often these children have been located by the agency previously mentioned, who, in turn, contact us for follow-up care and further case finding. Reports of our findings and recommendations are returned to the referring agency or individual. A registry for certain categories of children is maintained by the specialty clinics of the medical center. Enrollment into special state and federal health programs is carried out when appropriate. A daily diagnostic index of all visits is maintained. Through this system broken appointments are followed and the "lost patient" incidence is greatly reduced. This also facilitates case reporting and alerts us to impending or ongoing epidemics.

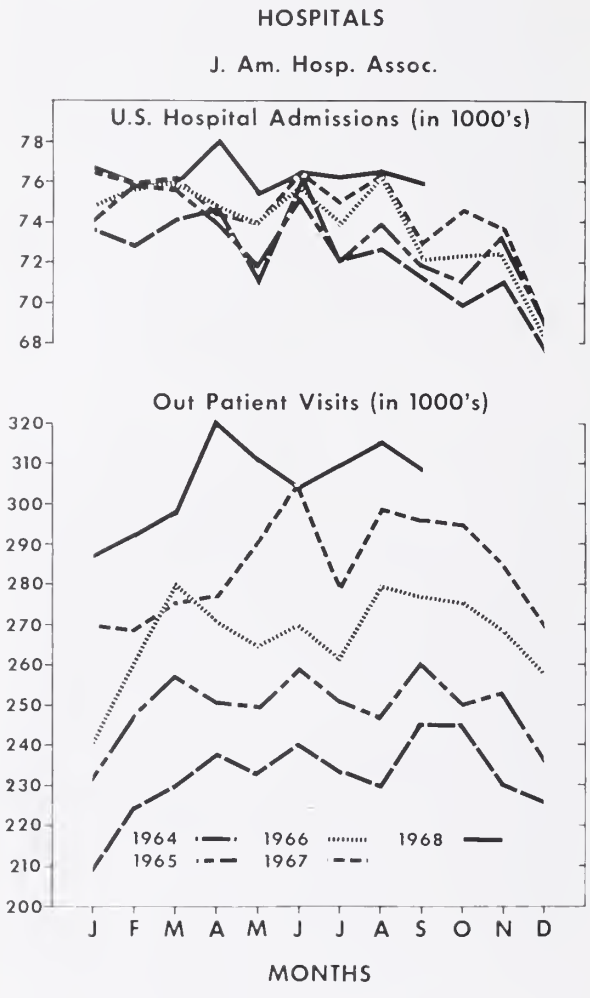
The usual medical services have been augmented with clinical psychologists, speech and hearing therapists, learning disability specialists, nutritionists, as well as dentists, orthodontists and oral surgeons. These personnel are assigned to the out-patient service and are physically present in this area.

Case Report

An example of this combined effort is a child that presented to the Pediatric Clinic, September 4, 1968, UVAH NO. 61-00-20. An appointment was requested by the local Health Department for evaluation of a three and a half year old girl who has been slow in her motor development.

An appointment was mailed to the parents for 8:30 a.m. The child had a comprehensive medical history and physical evaluation; it became apparent that she had both motor and mental retardation, as well

as growth retardation. Blood chemistries, chromosomes, and x-ray studies were obtained in the morning, along with a psychological evaluation. After lunch she was seen in consultation with the Pediatric Endocrinologist, who substantiated a diagnosis of hypothyroidism with a technesium scan. Thyroid extract was prescribed and a letter was sent to the referring doctor at the health department that afternoon.



Aside from the radiostope scan, this child's medical evaluation could have been provided in any community hospital organized with modern concepts of ambulatory care. As illustrated in the accompanying graphs,[1] the number of out-patients seen daily for the past five years in the United States has been increasing at the rate of 10% per year. The number of in-patients has been maintained at a steady level with slight, if any, increase. Obviously, if this trend continues, the community hospital must assume a more responsible role in the care of out-patients to meet the needs of the local and surrounding area physicians, as well as the demands of the patients.

Summary

As stated earlier in this paper, the medical needs of patients in rural and small communities are the same as those of the urban patient. However, the social, psychological, economic and educational requirements are unique and need to be individually evaluated. To this end, we are attempting at the University of Virginia Department of Pediatrics to define the needs of these children and also attempting to organize a satisfactory medical environ in which we may diagnose and treat these children and counsel their parents.

We have been encouraging existing health agencies to carry on with continuing care and case finding. It is hoped that our experience will be of value to community hospitals in planning for future expansion of services. The ultimate aim is better health for children and therefore better education and a more solid foundation to assume the responsibility of adulthood.

This, hopefully, should lead to a healthier, happier and more productive nation.

What has become apparent early in the course of this program is that many groups of children in need of such care have been found in our state. Surely this situation is not confined to Virginia but must be present throughout rural United States.

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Gluteal Flaps in the Closure of Sacral Decubitus

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Plastic surgical procedures hasten the cure of sacral pressure sores. Techniques employed include free skin grafts and local flaps with or without skin graft to donor areas. A new technique which utilizes straight advancement flaps from the buttocks based laterally is presented.

SACRAL DECUBITUS ULCERS, as any other "pressure sore", arise as the result of prolonged pressure on the soft tissues overlaying the sacrum in patients that lie supine without moving during long intervals for some reason or other, most frequently paraplegia. This excessive pressure between the sacrum and the bed produces a local ischemia that, if prolonged, gives rise to irreversible degenerative changes.[2,3,4,6]

Development of bedsores may be abetted by intrinsic and extrinsic factors, but their cause is pressure and only pressure.[1] Good nursing care may at times prevent their appearance. Changing the position of the patient frequently, preventing skin maceration by not allowing the bed sheets to remain wet with urine or feces, the use of a special mattress and the prevention of anemia or hypoproteinemia help in the prophylaxis of this troublesome complication. The recently available water mattress (a vinyl bladder filled with water set in a polyurethane form), the so called "Total Flotation Therapy", designed to redistribute pressure over more of the body surface and consequently diminish it over the body prominences, should be a great asset in preventing the appearance of pressure sores and in an invaluable aid during their treatment.[7,11,12] Yet in certain patients in spite of all these measures the decubitus appears. Of all the aforementioned prophylactic measures the most important one is the prevention of prolonged pressure caused by leaving the patient laying on his back for long intervals.

These patients are too weak to move in spite of discomfort, or have no discomfort due to absence of sensation thus laying in one position too long.[5]

Once the ulcer has appeared the institution of the same prophylactic measures in some patients may eventually heal them spontaneously. In others this spontaneous healing, if not helped by surgery, will never materialize or will progress very slowly thus unduly postponing the rehabilitative measures, and morbidity becomes severe and prolonged.

Before surgery is undertaken the local treatment of the ulceration consists in excising the insensitive, sloughed, obviously necrotic tissue and the use of continuous compresses of 0.5% silver nitrate solution for the control of infection as advised by Moyer[9] in the treatment of burns.

Surgery is not indicated until the ulcer shows signs of improvement.[13] These signs are (1) absence or near absence of sloughed tissue, (2) diminution in size of the skin defect with thin edge of advancing epithelization or diminution of the undermining of surrounding skin, (3) appearance of healthy granulation tissue.

This spontaneous improvement will come about when the patient's condition improves

to such an extent that he can either turn himself or be turned with ease by adequate personnel thus not laying on his back except in changing from one side to the other.

Surgery before the onset of improvement is fraught with danger. Bailey[1] states it well by saying: "It is an illusion to believe that a new skin surface will prevent the recurrence of a sore. The unbroken normal skin of the area was unable to prevent the development of a sore in the first instance, and, even after operative removal of the offending bony point, recurrence is likely unless pressure is avoided. An unblemished flap of skin will resist pressure far longer than a graft or broad suture line. but the difference is only fractional. We have seen recurrence through flap repairs as well as through grafts and scars. Proper management of the case is the only method by which a new sore can be avoided. . . ."

In cases of definite paraplegia where return of motion to the lower extremities is not contemplated, the surgical treatment of a sacral decubitus should be frequently postponed until the prophylactic removal of the greater trochanters is performed. This trochanterectomy will in most cases prevent trochanteric ulcerations which would otherwise probably appear when the patient is placed on his sides, following surgery for the treatment of sacral decubitus.

When the sacral decubitus has been left to heal spontaneously and has become very superficial without any undermined skin border, then a free skin graft could be used to cover the skin defect. This would be a simple procedure which in some cases might permanently heal the ulceration.

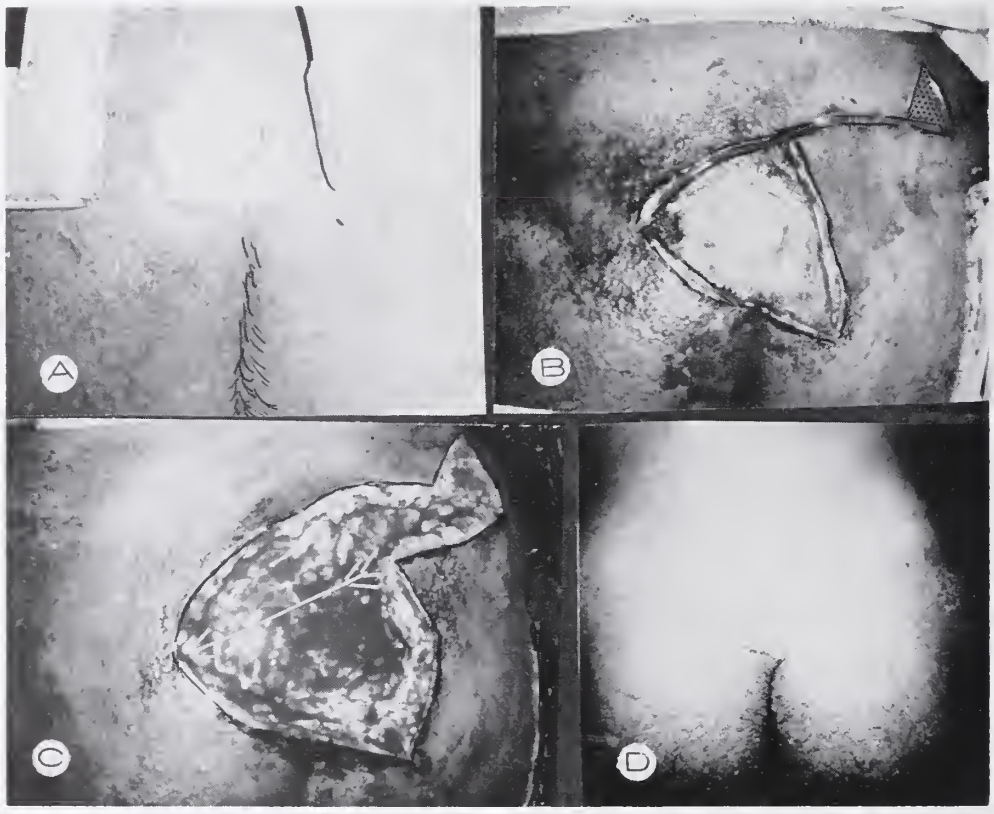


Fig. 1. A, sacral decubitus in a 29 year old quadriplegic; B, surgical incisions with planned excision of large triangle of tissue which includes the pressure sore and a smaller triangle to prevent "dog ear"; C, tissue defect left by the excision of tissue; D, sacral region healed.

In deeper ulcerations, flaps of skin and subcutaneous tissue should be used to cover the underlying bone.

In the literature neighboring large flaps and free skin grafts to the donor area have

been used extensively. Rotation local flaps of different shapes based inferiorly have also been used with success. (Figs. 1 and 2)

Straight advancement flaps based laterally towards the center of the buttocks (Figs. 3 and 4) have not to my knowledge been reported. We have used this technique in treating over fifteen ulcers, some of them quite large, (five inches in diameter) with success in all of them. It is a relatively simple procedure that does not require the use of free skin graft to cover donor areas. The designs of the different flaps that we use to cover sacral decubitus are illustrated in the case reports. Very large ulcerations would not be amenable to these techniques.

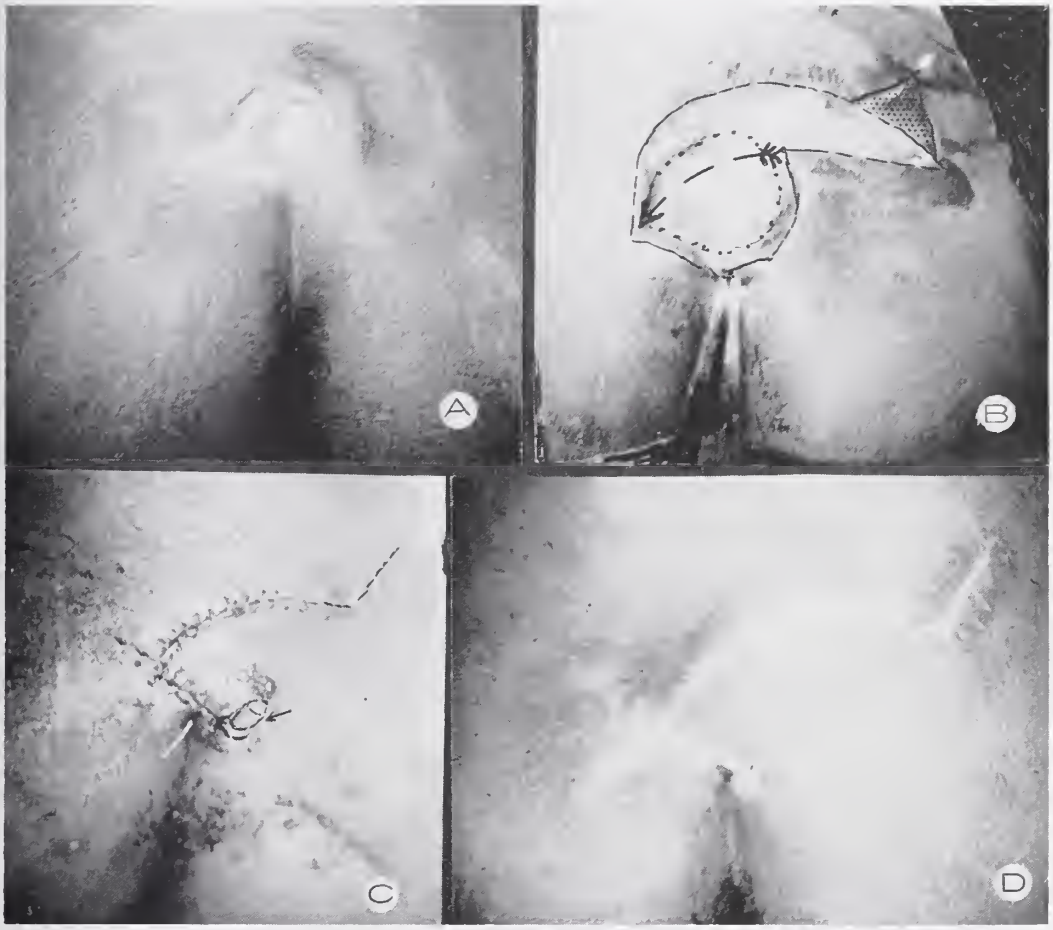


Fig. 2. A, sacral pressure sore in a 26 year old paraplegic; B, tissue defect after debridement and undermining of rotation flap from right buttock; C. after excising Burow's triangle and rotating flap in order to cover sacral defect. Note Penrose drain (arrow); D, final photograph.

Surgical Technique

The patient is placed in the prone position. The tissue to be excised and the flap to be raised are outlined with methylene blue. The first step in the reconstruction consists in complete debridement of the ulceration in surface and in depth. The edges of the flap should be perpendicular to the skin surface. The base of the flap should be treated with care so that we do not injure the vessels entering it. Vessels are clamped and ligated with 4-0 chromic catgut ligatures on a needle. At times bony projections are removed with bone biting forceps or chiselled off flush.[8]

"Dog ears" on each side of the base of the pedicles are prevented or corrected by the excision of Burow's triangles placed laterally to the base of the flaps.

The technique in the approximation of the skin borders is of the utmost importance,

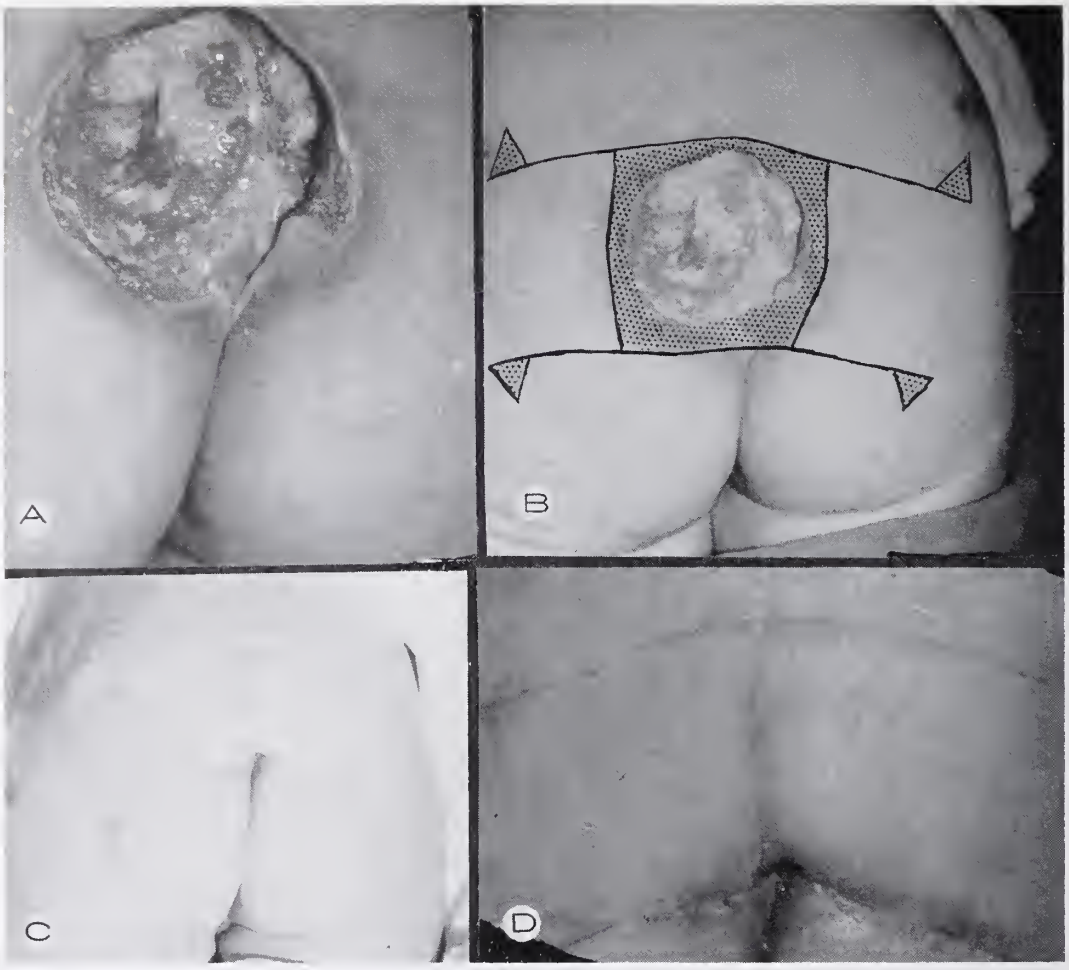


Fig. 3. A, large 5-inch sacral decubitus in a 75 year old fractured hip C.V.A. patient; B, schematic drawing of incisions to be done in order to raise two gluteal flaps and prevent dog ears by the excision of four Burow's triangles; C, final result following the closure of defect by bringing together the gluteal flaps in a straight advancement flap fashion; D, close view of repair.

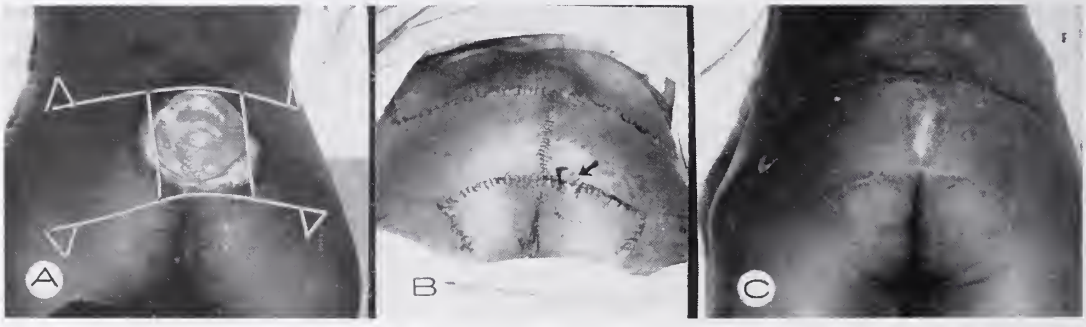


Fig. 4. A, large sacral pressure sore in a paraplegic. White lines show the surgical plan of debridement and reconstruction; B, immediately following surgery with the Penrose drain (arrow) in place; C, final result.

especially so where most of the tension is located. Two or three different layers of subcuticular continuous monofilament atraumatic 4-0 stainless steel wire (No. 24) is used. For the final superficial cuticular stitch 5-0 nylon or 5-0 stainless steel wire is used. The stitches are removed in about two weeks.

Only one 1/4 inch Penrose drain is placed to the depth of the flaps (Figs. 2, 4) and is brought out where there is less tension, i.e. on the inferior portion of the incisions. The

drain prevents accumulation of capillary ooze under the flaps.

The patient is kept off his back and not allowed to sit up for two to three weeks, to prevent tension on the healing surface which could give rise to disruption.

The greatest disadvantage of this technique is the location of part of the operative scar on the midline. If the patient were allowed to again lie on his back for a prolonged period of time a scar from this wound in the midline would be more vulnerable to ulceration than if it were somewhere else. Nevertheless in practice, this scar has done well, almost as well as the surrounding skin. The advantage in simplicity of this technique has outweighed this disadvantage. Osborne[10] in 1955 stated that "the bilateral rotation flap base distal from the buttocks, first suggested by Professor Kilner, has been carried out for a large number of sacral sores, and although it means a scar line directly over the sacrum, I have yet to see a recurrence".

The following case reports will illustrate the techniques used.

Case Reports

Case 1. R. J., 29-year-old man was involved in an automobile accident on February 4, 1968. He suffered a fractured cervical spine that gave rise to quadriplegia (Fairfax Hospital No. 294517). A sacral decubitus (Fig. 1) developed. On April 23, 1968, it was debrided and the skin defect repaired with a unilateral rotation flap based distally from the buttocks on the inferior gluteal fold.

Case 2. J.L. (Fairfax Hospital No. 302263) A 26-year-old man became paraplegic and anesthetic from mid chest downward, following an automobile accident, due to a fractured cervical spine at C5 on March 28, 1968. On August 2, 1968 the sacral decubitus that developed (Fig. 2) was repaired with a unilateral gluteal rotation flap.

Case 3. G.H. 75-year-old patient (National Orthopedic and Rehabilitation Hospital No. 14472) suffered fractured right hip on March 1963 which was complicated the next day by a cerebro-vascular accident and three days later by pneumonia which interdicted surgical orthopedic treatment. A month later she developed uremia but recovered. In June 1963 she was admitted to the hospital for rehabilitation. She had a sacral decubitus, five inches in diameter (Fig. 3), fractured right hip, right hemiplegia, pyelitis and cystitis . On July 3, 1963, the decubitus was closed with two laterally based gluteal straight advancement flaps. The wounds healed by primary intention, and she was discharged on August 10, 1963.

Case 4. P.P. (National Orthopaedic and Rehabilitation Hospital No. 11533) was a 28-year-old patient who was involved in an automobile accident on June 29, 1961, and became paraplegic. On October 13, 1961, a very large sacral decubitus was treated surgically by covering the skin defect with bilateral straight advancement flaps.

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Pruritus as a Symptom of Systemic Disease

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Widespread pruritus may be the first indication of malignant tumor or other serious internal disease.

PRURITUS is one of the many cutaneous manifestations of internal disease. This symptom may occasionally be the first indication of serious systemic disorders, and for this reason, not all patients with itching should be passed off as having neurodermatitis or pruritus secondary to some localized cutaneous process. Widespread and symmetrical pruritus is particularly suggestive of an underlying disorder.[1]

Fifteen patients, who experienced pruritus in association with various systemic changes, have been recently seen by one or both of us at the University of Virginia Hospital. These cases are summarized in the table.

Discussion

The systemic disorders seen in this group of patients are representative of the types of internal disease which may present with pruritus. Three of our patients had Hodgkin's disease and two others had reticulum cell sarcoma or mycosis fungoides. Lymphomas, particularly Hodgkin's disease, are among the most common underlying causes of pruritus. On the other hand, itching is said to be uncommon in leukemia.[1,2] We were surprised, therefore, to find two patients with leukemia. Both of these individuals had chronic lymphocytic leukemia, which is the type usually seen when pruritus is present.[3]

Another group of disorders which is frequently associated with pruritus is the endocrinopathies.[1] Diabetes mellitus is most commonly mentioned, and recently there have been two reports emphasizing a relationship between hyperparathyroidism and itching in patients with uremia.[4,5] In addition both hypothyroidism and hyperthyroidism should be considered. Three of our patients had thyrotoxicosis, and two of them have been discussed in detail previously.[6] Two others had diabetes mellitus but both of these patients had other systemic problems. One of them also had osteoarthritis which is not usually considered to be associated with pruritus, and the other had uremia on the basis of diabetic renal changes. Another patient had uremia secondary to polycystic kidney disease. Uremic patients are frequently bothered by itching, and as mentioned earlier, this problem may be related to parathyroid function.

Two patients were pregnant, and the relationship between pregnancy and pruritus is a relatively common one.[3] One of these patients also had thyrotoxicosis and improved after treatment with propylthiouracil, but the other one suffered with itching for four months until the problem cleared following delivery. Finally two patients had obstructive jaundice which is another underlying disorder frequently associated with pruritus.[1] One of these patients improved upon treatment with a basic anion exchange resin, cholestyramine. The other one also

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had mycosis fungoides and reticulum cell sarcoma, but the itching seemed to begin only after the late onset of jaundice.

In addition to the systemic diseases seen in our patients, there are several other internal problems that have been reported to have a similar relationship with pruritus. Among these are malignancies other than those already discussed, polycythemia vera, and myelofibrosis.[7] Infestations with various parasites may be significant as may be the ingestion of certain drugs, particularly those drugs which induce intrahepatic biliary obstruction.[1]

One of the most interesting aspects of our patients is that pruritus was either the initial symptom or the complaint which led to the diagnosis of a systemic disorder in six individuals (patients #2, 3, 4, 5, 6, 11). It was felt, therefore, that these cases might serve as a stimulus to make the clinician more suspicious of internal disease when confronted by a patient with pruritus. Such an association is more likely if the itching is widespread or generalized and if there are no visible cutaneous lesions other than excoriations.

TABLE I

Patient	Age and Sex	Diagnosis	Extent of Pruritus	Onset in Relation to Diagnosis	Response to Treatment
1	33,M	Hodgkin's Disease	Generalized	Eight years after diagnosis but before any treatment	Cleared with antimetabolites
2	75,M	Hodgkin's Disease	Generalized	Preceded diagnosis and other symptoms by nine months	Cleared with antimetabolities
3	64,M	Hodgkin's Disease	Generalized	Presenting symptom—preceded diagnosis by several months	Improved with antimetabolites
4	43,F	Hyperthyroidism	Generalized	Presenting symptom of recurrence	Unknown—lost to follow up
5	69,F	Hyperthyroidism	Generalized	Presenting symptom leading to initial diagnosis	Cleared With RAI therapy
6	31,F	Hyperthyroidism and pregnancy	Generalized	Presenting symptom—preceded diagnosis by two years.	Improved with propylthiouracil
7	70,F	Diabetes mellitus, osteoarthritis	Generalized	Many years after onset of diagnosis of both disorders	None
8	56,M	Diabetes mellitus, Uremia secondary to glomerulosclerosis	Generalized	Five years after onset and diagnosis of diabetes and probably after uremia began	Expired
9	51,M	Uremia secondary to polycystic kidney disease	Trunk and legs	Onset not clear but probably after onset of uremia	Follow up too brief for evaluation
10	80,F	Chronic lymphocytic leukemia	Arms, head and trunk	Twenty months after diagnosis	None
11	48,M	Chronic lymphocytic leukemia	Generalized	Preceded diagnosis by two months and was the presenting symptom	Improved
12	31,M	Reticulum cell sarcoma	Generalized	History not clear	Probably none but did improve months after antimetabolites
13	69,F	Mycosis fungoides Recticulum Cell Sarcoma, Obstructive Jaundice	Generalized	Began at the time of onset of jaundice and one year after diagnosis of mycosis fungoides	Follow up too brief to evaluate
14	61,M	Obstructive Jaundice	Generalized	After jaundice began and continued with the chronic jaundice	Moderate improvement with cholestyramine
15	20,F	Pregnancy	Head and extremities	Began at five months gestation and persisted to end of pregnancy	Cleared after delivery

Summary

Pruritus may be the first manifestation of serious internal disease. Fifteen patients are presented who experienced extensive itching as a symptom of various systemic changes. Hodgkin's disease, mycosis fungoides, reticulum cell sarcoma, and leukemia are prominent in this series. Hyperthyroidism, diabetes mellitus, uremia, obstructive jaundice, and pregnancy were also noted in

association with pruritus. Other disorders which should be included in the differential diagnosis of internal diseases which may present with pruritus include visceral malignancies, hypothyroidism, drug sensitivity, polycythemia vera, myelofibrosis and parasitic infestations.

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GLUTEAL FLAPS IN THE CLOSURE OF SACRAL DECUBITUS—Borges

(*Continued from page 655*)

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Mesenchymal Syndrome

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The association of tendinitis of the shoulder, lateral epicondylitis of the elbow and carpal tunnel syndrome in middle aged women with premature menopause and osteoporosis constitutes the mesenchymal syndrome.

FOR SOME TIME now we have noted the association of shoulder tendinitis (bursitis), lateral elbow epicondylitis (tennis elbow) and carpal tunnel syndrome occurring in middle-aged women who have manifested gynecological malfunction (generally with prior oophorectomy and hysterectomy) and premature skeletal osteoporosis. We have termed this entity Mesenchymal Syndrome and to our knowledge it has not been described to date.

Certain aspects of the Syndrome seem similar to but do not fall within the realm of fibrositis (although similar tissue abnormalities, namely collagen and ground substance seem altered).

Laboratory evaluation including CBC, sedimentation rate and rheumatoid factor are characteristically normal.

The pertinence of syndrome status in our estimation aids in inclusive thinking, thereby leading to early diagnosis and treatment of entities likely overlooked. This seems particularly true in regard to the long term hazards of skeletal osteoporosis.

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From the section on Orthopedic Surgery, Georgetown University Medical Center.

It would be appropriate to discuss certain aspects of the diagnosis and treatment of the major components of the syndrome with present dissertation directed primarily toward the non-orthopedist.

Shoulder Bursitis

Bursitis is an inappropriate term and is better described as non-specific inflammation of the rotator cuff (on basis perhaps of hereditary mesenchymal deficit, hormonal imbalance, as well as tissue aging and trauma) with secondary inflammation of the overlying subdeltoid bursae. The close association of the acromium process and the coraco-acromial ligament make chronic repeated trauma a certainty, thereby causing intermittent self perpetuation of the problem. Chronic injury can lead to subsequent rotator cuff rupture. Associated maladies include inflammation of the adjacent biceps tendon (bicipital tendinitis).

Diagnosis is generally not difficult as historically the symptoms often start abruptly with or without trauma or abuse (painting ceiling, etc.) and are severely painful (exquisitely so if calcium deposition has occurred). Active and passive motion is lost, especially abduction and internal rotation, which are motions that abut the rotator cuff against the acromium.

Clinically the patient is tender to palpation over the rotator cuff (generally anterior). Characteristically the arm is held guardedly at the side (in severe cases).

X-ray examination is mandatory, even in the face of classical findings as occasional serious maladies including primary bone malignancy and apical lung tumor (Pancoast tumor) can mimic tendinitis. Calcium deposit is more often absent than present.

Effective treatment includes local injec-

tion of steroid and anesthetic. The important point is injection directly into the palpably most tender area. Do not be misled as the patient often points to an area in the mid-deltoid as the painful area, but palpable tenderness is rarely in this region of referred pain. We have found the combination of 15 cc of ½ per cent xylocaine mixed with 2 cc of Kenalog (20 mg Triamcinolone) an effective combination. Xylocaine ½ per cent is stressed as stronger dose is not needed and lesser dosage negates to some degree the occasional hazards of drug sensitivity. Total flooding of the above amounts of medication in the proper area frequently lead to instant relief. Restoration of full mobility is a must and Codman's motion exercises are therefore prescribed and absolute avoidance of any power building. Strong analgesic medication should be used initially and we generally add anti-inflammatory medication orally for five days (usually Alka Butazolidin). Occasional repeat injections are indicated.

If response has not been satisfactory, referral of the patient is in order with consideration of formal physical therapy, manipulation of the shoulder under anesthesia and rarely surgery. The best chance for cure is when symptoms are acute and it is therefore unwise to withhold referral if the initial response is unsatisfactory.

Lateral Epicondylitis

This entity in actuality includes several different anatomic problems including:

1. Strain with partial rupture of wrist extensor muscle origins at the epicondyle.
2. Myositis of proximal muscle bellies (point tenderness will not be over epicondyle).
3. Synovitis and/or overlying bursitis at the radio-humeral joint.
4. Combinations of above.

Historically the patient complains of non-exquisite pain over the lateral elbow with relatively stressful activities utilizing the wrist extensors (e.g., tennis, bowling, opening jars, etc.).

Clinically an area of local point tenderness is present but little else is noted. X-rays are normal but should be taken to rule out other maladies (e.g., arthritis, etc.).

Treatment is similar to that rendered the shoulder but in smaller injection dose. Rest, however, in this instance is generally beneficial with avoidance of aggravating activities. Recurrence is not unusual but long term containment of the symptoms is the rule.

Carpal Tunnel Syndrome

This entity can be classed as a physiologic malfunction (neuropraxia) of the median nerve secondary to some compressive force within the confines of the carpal canal at the wrist. Any space occupying lesion (e.g., fracture, tumor, etc.) will create symptoms but in the context of the present paper, edema and non-specific inflammation of the synovial flexor tendon sheaths are the etiological culprits.

Historically the patient notes insidious onset of tingling paresthesias ("poor circulation") in the fingers of median nerve distribution (primary index and long). Symptoms are especially noted at night and not infrequently awaken the patient, at which time shaking the hand temporarily relieves the discomfort. Holding the hand in one position usually with the wrist extended (as in driving an auto or reading a newspaper) also bring the symptoms on. Associated slowness of finger flexion, pain (sometimes severe) in hand or volar forearm, and hand weakness are characteristic as well. Pregnancy and premenstrual fluid accumulation are noted to be inducing factors.

Clinically the diagnosis is confirmed by reduplication of the symptoms by hyperextension or hyperflexion (Phalen sign) of the wrist for 1 minute. Tapping the carpal canal often elicits Tinel's sign of painful hyperesthesia but not always. Thenar em-

inence atrophy is not common (20 per cent of cases) as sensory disturbances precede motor dysfunction. The electromyogram nerve conduction velocity test confirms the diagnosis but often the historical and clinical evidence is so characteristic that this testing is not generally necessary.

In the way of treatment we have found Esidrix or Hydrodiuril 50 mg daily effective in many cases. The synovium about the flexor tendons is edematous and this edema seems amenable to the diuretic (especially in such associated fluid accumulation problems as pregnancy and premenstruation). Systemic anti-inflammatory medication (generally Alka Butazolidin, 1 t.i.d. p.c. for 5-10 days or aspirin tablets 2 q.i.d.), warm (not hot) soaks with gentle active finger exercise, and occasional splinting of the wrist in neutral position have as well been helpful.

If response has not occurred and the symptoms warrant, surgical decompression of the carpal canal is in order. The operation is one of few which almost guarantees a good result provided it is done well and the diagnosis is correct. The patient usually can be discharged from the hospital the day following surgery and already has some active use of the hand function at this stage. Total return of pre-op hand function can be expected in 3-4 weeks but without the pre-op symptoms.

It should be noted that previously, prior to surgical intervention, local injection of steroid into the carpal canal was generally utilized as a treatment form. With continued experience, however, we have noted some hazards (namely post injection cortisone flair with exaggeration of symptoms on permanent basis). In addition we have found that if the symptoms are severe enough to warrant injection the result is characteristically temporary so that eventually surgery is undertaken anyway. We, therefore, at present use local injection on a very minimal and highly selective level.

Osteoporosis

It is not the scope of this present paper to embark on a detailed treatise of osteoporosis. Certain general remarks are, however, in order. Suffice it to say the problem is one of protein and mineral depletion of bone clinically noted primarily in cancellus areas (e.g., vertebrae). It is apparent that in addition to aging, some hormonal and mineral imbalance have a great role to play in its production (the specifics of which for the present have eluded world knowledge).

The point to be made at present is the presence of osteoporosis in association with the other maladies included in mesenchymal syndrome. As these other entities bring patients to medical attention relatively early, we as physicians have an excellent opportunity to diagnose the potential of osteoporosis at a much younger age. When, therefore, a "simple bursitis" presents itself further questioning regarding prior gynecological dysfunction (especially prior oophorectomy and hysterectomy) is in order. If the answer is in the affirmative, x-ray evaluation of the vertebrae (lateral views of thoracic and lumbar spine seems best) is in order. Notify your radiologist of what you seek as the diagnosis is difficult at best in subtle cases. In addition it is noted that approximately 50 per cent of the mineral mass must be removed prior to significant x-ray change; therefore, a negative x-ray does not rule out osteoporosis and conversely when the diagnosis can be made, the problem is already well advanced. More sophisticated methods of diagnosis including bone biopsy and mineral balance studies are available but unfortunately their cost prohibits mass evaluation by these methods.

Treatment to date has been an enigma as nothing known to man seem capable of reversing the situation. Clinically, however, many patients (at least subjectively) do well with hormonal replacement. A point here seems worth the effort, namely in our experience the estrogen-androgen preparations

have in general not been helpful simply because of cost and side effects (androgen) and are discontinued by the patient automatically in a few weeks to months with rare exception. If the treatment is to be a lifetime situation these objections, therefore, make the replacement totally ineffective. We have had much better luck, therefore, with cheaper medication (e.g., 1.25 mg Premarin or Diethylstilbestrol). In addition protein replacement via well balanced diet (difficult in the elderly), multivitamin and calcium (calci-wafers, 1 t.i.d.) replacement are in order.

The effect of the above medications we suspect is dependent upon lifetime intake. We do not believe the osteoporosis reverses but are inclined to feel that its progression is slowed (no scientific study at present to substantiate this clinical impression). Certainly many patients feel better.

One additional practical point as well seems pertinent. It is not unusual to note in the mesenchymal syndrome a general overall personality pattern depression. These patients often limit their physical activities on this basis, as well as the pain from their physical infirmities. Osteoporosis is perpetrated by disuse. Every effort should, therefore, be made to encourage exercise activities designed to stress the musculoskeletal system. In our estimation this may be the most important treatment of all.

Treatment for well advanced osteoporosis with compression fracture and angular vertebral deformity will be excluded from the present discussion.

Comment

Certain other maladies on occasion have been associated with the primary mesenchymal syndrome and include de Quervain's syndrome and trigger finger or thumb. Both problems are similar, namely inflammatory compression of tendon sheath areas, the former in the first extensor compartment at the base of the thumb and the latter in the flexor retinaculum at the base of the affected finger or thumb in the palm. Occasionally as well early rheumatoid arthritis will confuse the issue. This malady is amenable to surgical correction when needed and indeed the author believes an early surgical opinion is warranted in cases of rheumatoid arthritis (especially wrists, hands and knees) which have proved refractory to good medical management.

Summary

Mesenchymal syndrome has been described which includes the associated maladies of tendinitis of the shoulder, lateral epicondylitis of the elbow, carpal tunnel syndrome at the wrist, gynecologic malfunction and osteoporosis occurring in middle aged women.

A discussion of the various specific entities including treatment was undertaken.

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Management of the Terminally Ill Patient

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The dying patient as well as his family must receive care and consideration from the physician until the end.

ALL PHYSICIANS in their training or practice will have some responsibility for managing the terminal patient. Although many lecture hours cover the use of appropriate drugs and respirators to prolong existence, there is little discussion of the emotional impact of death for patient, family and physician. The physician's role is the preservation of life, but recently there is a growing concern over extreme therapeutic measures attempted on some patients to prolong life only hours or days. Physicians who are able to resist a purely clinical approach find a difficult role of counselor and director of existence for the patient placed upon them. Clinical procedures besides basic supportive therapy are of no help to the terminal cancer patient, yet the *care* of the patient is essential until the end. Psychological support for patient and family in this situation requires a different but exacting skill of the physician not found in medical textbooks. This paper reviews articles which present basic approaches and understanding to the event of death for the patient, family and physician.

The term "grief" is a reaction to separation or loss of object and is a problem for the patient as well as the anticipatory grief of his potential survivors. The emotional response of the patient may change during the course of a terminal illness. Aldrich[1] makes the analogy of partially overlapping circles about a central circle to represent ego boundaries or the limits of emotional investment the patient has in friends and relatives. The greater the number of relationships with other persons, the more suffering the patient experiences by anticipating his separation from them.

As in other conflicts, defense mechanisms as denial and regression help the patient to reduce his emotional suffering. As the illness progresses, the patient becomes more introspective and less concerned with outsiders. Thus, the significance of his former relationship is gradually reduced and consequently the extent of anticipated loss is reduced. Aldrich's analogy indicates a decrease in the patient's circle or a retraction of his ego boundaries. As patients vary in their responses to imminent death and a specific patient may vary in the course of a terminal illness, the physician must determine the patient's personality strength and previous use of denial. The doctor's approach to the patient should be one that indicates the seriousness of the disease, but not the inherent fatality. Such an approach makes denial possible for the patient who needs to deny and at the same time allows for acceptance if his personality strength is prepared to accept. Patients who have been told to arrange their affairs so that they may save their strength and protect their health can make several decisions. He may need to believe in survival in order to put his affairs in order; on the other hand, each step in reducing his responsibilities may appear to hasten his death and thus he resists them. In either case, the physician's continued interest in the patient and seeing him daily will enable the patient to reduce his own grief.

Ayd[2] makes a strong plea for physicians to recognize the limits of a clinical approach

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to the "hopeless case" and provide ordinary means to sustain the patient's life so that he may die peacefully. The crux of the problem is the difficult decision as to when the patient is actually dying. Intensive care and cardiac care units in many hospitals do enable some "hopeless" patients to be restored to useful life for periods of months and years. Those patients who do not survive such care are said to provide knowledge that may help future patients. However, that position has a physician-oriented approach and the dying patient and his family may need more consideration. It is evident to anyone in the ICU or CCU that the family of the patient getting oxygen, drugs, and having tubes in natural and surgically created orifices is in a state of depression and shock because they are emotionally cut off from their loved ones. A tracheostomy prevents verbal communication and narcotics for pain dull all of the patient's environment, his physical state as well as those about him. Persons who have shared a life together resent being deprived of the opportunity to share the final hours or days with a loved one. They question why they are denied the right to face the crisis of death with the patient. In many cases, the respirator, I.V. tubes and EKG leads displace the family and try to delay the inevitable. Ayd points out that when the physician has a terminal patient, extraordinary treatment is not indicated. The life-preserving treatment has the danger of becoming only a means to prolong the family and patient's agony. Physicians treating the patient and not the disease must recognize his dignity and the right to live and die peacefully.

A case for honesty is proposed by Rhoads[3] to allow patient, family and physician to realistically face a terminal illness. First, a physician must be sure that everything that reasonably could effect a cure be done and make the patient as comfortable as possible. Within the scope of the patient's resources, the doctor should make available facilities and consultants which the doctor would request were he faced with the disease. After this is accomplished, the disease and the patient's prognosis should be discussed with patient and family. This discussion is a continuing dialogue that allows the patient and family to gradually accept the facts as they wish. In many cases, this honest approach is tempered with optimistic uncertainty. Rhoads states that although many patients indicate that they do not want to be told the whole truth, most will, in the end, have to be told by someone.

Honesty in human relations is important but especially in the doctor-patient relationship. Human relations are sufficiently complicated without making them more complex by lies that are later retracted. Anticipation of uncertainty is usually more anxiety producing than the facts of a disease, if they are slowly revealed to the patient. Although Rhoads acknowledges that many of his fellow physicians do not inform patients of terminal illness, his convictions is to never avoid the truth. As all patients do accept their death to some degree, they usually want to depart this life with some sense of dignity. If honesty has been destroyed earlier in the doctor-patient relationship, then the mutual trust and respect that in the end may be the only therapeutic tool is not available. The patient who wants to have some significance to his life in the end may have only isolation and despair.

Regan[4] feels the keystone to the management of a patient's death is the recognition that death is a crisis—for the patient, for his family, and for the physician. The patient suffers with pain and disease, by loss of dignity as a human being, and by increasing estrangement from family and friends. The family's crisis is to support the patient to the end, the need to express grief at the death, and by successful mourning regroup their members to go on living. The physician's crisis is the most complex as he must direct the interplay of emotions toward a constructive outcome. His direction must

enable the patient to achieve a peaceful death and help the family go through each of its crises successfully.

Regan has several points to offer as the crisis of death approaches. The physician must help the patient in establishing a fair appraisal of his situation so he can plan for the period of life remaining. The family expressing genuine concern, but no excessive emotional outbursts, supports the patient best. The family and doctor should appropriately contact a minister, priest or rabbi to comfort the patient's apprehension.

When death has occurred, the family is in a state of emotional shock and needs the physician then to assist that crisis. Almost every family needs the reassurance that physician, hospital, and family did all that was possible, that the patient's suffering was minimal, and that now the event has passed. Time spent with the family immediately after a death is crucial for them to reestablish their new integrity and begin working toward the future.

Rodger's article on "Dying a Good Death" [5] is an excellent summary of the complexity of emotions surrounding the event of death. Her examples portray viewpoints of the patient, friends, relatives, ministers and persons caring for the patient. In physicians, a sense of failure and appraisal as to whether appropriate treatment was utilized accompany the event. The loneliness and silence of the dying are vividly shown to be more terrifying to the patient than the actual disease process. The confinement to a room and curtailment of activity narrow down the patient's life and emphasize a fear of "non-being". Short, but frequent visits are necessary, leaving lights on at night, extra blankets for warmth, and a genuine concern for the patient reduce his sense of isolation.

Taking a positive side, Rodger points out that terminal illness also provides an opportunity for discovering and awakening spiritual resources. Talking seriously with one's minister is most comforting to some terminal patients and it should be gently encouraged by the physician. As one would plan for a long trip, so the patient should be allowed to verbalize his emotions and dispense his responsibilities. This planning brings the family together and enables them to work through much of their grief in advance. Thus the period of mourning is more constructive as these emotions are shared and give a "strength of purpose" for the survivors.

The importance of religion and belief in a life hereafter is also considered. The physician and minister may enable the patient to see his death in terms of a transition to some "higher state of being". This state by Christian doctrine is not a merger into a universal soul, rather one becomes more fully one's spiritual self and an individual identity. Those patients who anticipate such an existence are no longer threatened by a sense of "non-being".

These articles indicate that the anticipation and the fact of death arouse many emotions in all persons involved with a terminal patient, including the patient. There does seem to be an approach whereby the physician can manage this event with more than clinical skills. It is a time for patient, family and physician to share a common concern, and constructively derive some meaning from this occurrence. By not placing the care of patient and family first and emphasizing only a clinical approach, physicians fail to meet the balance between the art and science of medicine.

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Iatrogenic Emotional Reactions

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Although some iatrogenic emotional reactions are unavoidable, many can be prevented by the thoughtful, sensitive physician.

A BASIC AND UNDERLYING TENET of the practice of medicine is that the physician shall do no harm. Despite our adherence to this time-honored principle, complications do occur and the patient sometimes is adversely affected by our treatment of him.

Technically, a condition which results from the treatment or activity of a physician is called iatrogenic. In most cases the physician has anticipated the potential complications of his treatment and has weighed these against the hazards of allowing the patient's illness to progress in its natural course. Subsequent complications, though iatrogenic in a strict sense, are at least anticipated and the physician is prepared to deal with them.

On the other hand, complications of treatment may occur which were not anticipated and may pass unrecognized, often greatly adding to the problems of the management of the patient. These unwanted reactions can affect both psychological as well as physiological adjustment. It is my purpose in this paper to review only the former; that is, those unexpected and undesired psychological sequelae to treatment.

In general, iatrogenic emotional reactions fall into three main categories: (1) those resulting from pharmacologic treatment, (2) those resulting from the treatment method or setting, and (3) those resulting from faulty communication between doctor and patient.

Reactions Caused by Pharmacologic Treatment

Emotional disturbances complicating the therapeutic administration of a drug or medication occur infrequently. Most often these reactions are caused by drugs which have a sedating and hypnotic action, for example, by barbiturates, especially the longer-acting varieties. In the susceptible patient, these drugs have the potential to cause the syndrome of delirium; that is, a confusional state characterized by disorientation, memory deficit (primarily recent memory), and difficulty with attention and concentration. Particularly susceptible are patients who already have some degree of compromised cerebral functioning, for example, due to cerebral vascular disease, fever, or to relative sensory deprivation.

Another model of non-intentional, drug induced emotional reactions are those major mental disturbances which occur following the administration of certain hormones, for example, adrenocorticotropin or hydrocortisone. With these drugs, reactions can occur in a relatively high percentage of cases. For example, in high dose, ACTH treatment can cause striking emotional changes in up to 16 percent of the patients.[1] The exact mechanism for this kind of reaction is not known but it is felt that multiple factors are responsible, including among them the nature of the pre-existing disease and the patient's basic personality structure.

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Reactions Caused by Treatment Setting and Isolation

Unexpected emotional reactions may also result from other modalities of treatment. For example, they may occur in certain special treatment settings, such as the intensive care unit or the coronary care unit. In each instance, these special treatment settings have certain similar characteristics. These are situations in which the patient realistically experiences a very great anxiety about whether he will live or not,[2] which tend to isolate him from the familiar,[3] and which involve serious physical illness and medication as additional contributory complications.[4]

Usually such treatment settings have been designed almost exclusively with preservation of life as the major clinical concern. Only in retrospect has it become evident that the formidable apparatus of resuscitation and the constant, mechanical monitoring of the patient can have a deleterious psychological effect upon him, especially after he has been successfully revived.

Additional physician-regulated factors may be involved in the development of this kind of psychological reaction and include the extreme loss of privacy (which constant observation and monitoring necessarily invades)[5] and difficulties inherent in a patient adjusting to the fact that he has almost died.[2]

Profound psychiatric problems can also arise due primarily to the effects of sensory deprivation and isolation. An example is the "black-patch psychosis" which may occur following cataract extraction.[6] Similar reactions may also result from the therapeutic application of isolation, as in the management of certain infectious illnesses. They may also result from the relative isolation and restraint imposed by therapeutic methods such as the Stryker Frame in neurosurgery and the "iron-lung" respirator.

It would seem predictable that as our technology and therapeutic armamentarium continues to broaden, we may anticipate that more and more psychological problems will occur as a result of our therapeutic efforts. This increase will be related not only to a greater population at risk (e.g., a larger population or older persons with attendant hazards of multiple illness and chronic brain disease) but as well to a greater population of patients physically rescued from what previously had been considered to be a fatal illness or condition.

Reactions Caused by Miscommunication

Another type of iatrogenic emotional reaction arises out of the patient's misunderstanding or misinterpretation of the doctor's communication with him. This communication can occur at any time during the patient's contact with the physician, including during the initial history-taking or physical examination. This communication is largely verbal but includes important contributions from the physician's manner, facial expression, tone of voice, etc.

Highly anxious and highly suggestible patients are most prone to develop unwanted psychological complications due to circumstances involved in their evaluation. A case in point is the patient who has a neurotic reaction, usually in the form of a classical anxiety attack, with symptoms referred to the heart. Some such patients may fixate on the interpretation that they have "heart trouble" if the physician neglects to explain the true nature and meaning of their symptoms; that is, that they are experiencing physiological accomplishments of an emotional reaction and that this does not mean that their heart is "going bad". It is equally important to avoid leaving the patient with the too glib explanation that there is nothing wrong with him except with his "nerves," as most patients interpret this to mean that it is all in their imagination. It is quite obvious to the intelligent patient that his symptoms are all too real and that the doctor either doesn't know whereof he speaks, did not properly examine him, or is concealing an awful truth from him.

Another example would be that of the patient with depression and accompanying psychophysiologic symptoms. In such a situation, the physician can inadvertently reinforce the patient's anxiety about the severity of his illness by not completely explaining the negative results of his examination. A middle-aged woman with gastrointestinal pain and hypermotility consulted her physician who, after a thorough examination, including extensive x-rays, recognized the relatively minor symptomatology as psychophysiological in nature, but failed to recognize her depression and over-riding fear that she had abdominal cancer like her mother. The physician's restrained treatment of what he felt was a minor condition and his too brief explanation of the extensive x-rays which he had taken to rule out more serious illness, including cancer, were misinterpreted by the patient as confirmation of her innermost fear; that is, that she had cancer and that he was not telling her to spare her additional anguish.

Yet another category of miscommunication concerns the patient's reaction to conversations overheard when he is considered to be unconscious from anesthesia. Cheek reports that the surgically anesthetized patient is able to hear and remember meaningful sounds after all reflexes and other varieties of sensory perception are gone.[7,8] These memories can potentially give rise to post-operative dysphoria and emotional reactions. For example, one patient who became unaccountably angry at her surgeon after a successful operation for an ovarian cyst, later recalled under hypnosis that once she was anesthetized, her surgeon had invited a colleague to actually perform the operation. She was angered because he had failed to discuss this with her before the operation.[7] Although successfully anesthetized, this patient heard the conversation which led to the switch of surgeons. These memories are quite out of conscious awareness, but sometimes can be recalled by means of certain special hypnotic techniques. What is remembered under hypnosis most often relates to a conversation about them or their condition, the content of which was frightening to them. For example, one patient recalled the verbal fragment, "It's gangrenous; this boy will be very sick for weeks to come." This was recalled under hypnosis many years after the operation.[7] Nonverbal cues, such as voice tone, anxiety, and attitude (an air of pessimism on the part of the surgeon) are often more meaningful to the anesthetized patient than the literal meaning of overheard remarks.

Summary

In summary, patients may react adversely to what is meant to be helpful treatment by the physician with the development of a transient disruption of their usual psychological balance. Many cases, especially reactions which are complications of a lifesaving treatment method, cannot entirely be avoided.

Anticipation of the possible development of an emotional reaction can prevent some from occurring and can certainly reduce the severity in others. For example, the awareness of the disorganizing effects of sensory deprivation has led to redesign of the coronary care unit at some institutions, with the result of a lower reported instance of psychiatric complications in these facilities.[3,9]

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Public Health....

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

The Domestic Solid Waste Problem in Virginia

Improperly handled waste breeds flies, feeds rats and other vermin, smells bad and looks bad. Relatively few communities can claim that they have their refuse problems satisfactorily solved.

The State Health Department's Bureau of Solid Waste and Vector Control, through the local health departments, is assisting many communities in their efforts to solve their refuse and litter problems. Utilizing the latest in technological developments in this field, progress is being made, but refuse is increasing at an unprecedented pace. The emphasis in control is now shifting toward turning refuse into a community asset rather than just getting rid of it.

The amount of solid waste being produced per person each day is increasing. Forty years ago it was said to be about two pounds per day; the figure now is four and a half to five pounds a person per day. As we advance in technology and affluence, we have more wastes such as "one-use" items; thus the pounds per person per day will continue to rise.

Much has been said about the population explosion, and since more people generate more solid wastes this adds considerably to the refuse problem. Therefore, it can be said that:

- . . . we are not solving the solid waste problems we have today;
- . . . we will have more people producing more wastes per person in the future; and
- . . . in order to keep pace with this ever-growing problem, we must increase our efforts.

Refuse is a tripartite problem: storage, collection, and disposal.

Storage consists of holding the waste material until it is hauled away. Proper storage should be the responsibility of the producer—the homeowner, commercial establishment, or institution.

Collection refers to picking up the refuse at the point of origin and hauling it to the disposal site. This might be accomplished by a department of the local government, by private collectors, or by individuals hauling their own refuse. Many local governments spend more money to accomplish this task than for any other public service except schools and roads.

The problem of *disposal* presents the most perplexing problem. It should be the responsibility of each local government to provide suitable disposal facilities and operate them in a safe and sanitary manner.

For many years towns and cities have disposed of solid wastes by dumping them on the land. The prevailing idea was "out of sight—out of mind." This system worked in years past because there were isolated places that could be filled and, in many cases, much valuable land has been reclaimed by this method. But today, available land for this purpose is fast disappearing and this crude, unscientific, unhealthy method of disposal is no longer acceptable. The open, burning dump breeds flies and other vermin, feeds and maintains hordes of rats, creates an air pollution problem, and is aesthetically unacceptable.

Based on today's knowledge, there are only two proven and acceptable methods for the disposal of municipal refuse; incineration and sanitary landfill.

Incineration reduces the volume by burning. The initial cost for the plant is high and operating costs are high. Incineration may be the only acceptable method of disposal in certain situations.

The sanitary landfill is a method of placing solid wastes on the land, compacted, and covered each day with a layer of earth. This has a low capital outlay, primarily involving earth moving and compacting machinery. The cost of operation is low. From an economic standpoint, the sanitary landfill method is the most desirable; however, it may not always be feasible. Four factors determine if the sanitary landfill method can be used: (1) sufficient available land within reasonable haul distance, (2) availability of sufficient and suitable cover material, (3) all-weather access to the site, and (4) no danger of ground or surface water pollution.

An added benefit from the operation of a sanitary landfill could be that marginal land can be raised and made usable. By using solid waste fill, certain facilities can be constructed. As an example, all of the waste from the City of Virginia Beach for the last two and a half years, and since July 1, 1969, most of the refuse produced in Norfolk, is being placed on a six-acre plot. The operation consists of placing one sanitary landfill on top of another. The finished product will be a kidney shaped amphitheater, 900′ long, 300′ wide, and 60′ high, with a soap box derby ramp running down the back side. When completed (five years), a city park will be created which will be unique and functional.

Advances in technology will provide new and better ways of refuse disposal in the not-too-distant future. But the problem in many communities is acute and must be handled now. They must work with the tools available now—incineration and sanitary landfill.

Therefore, in Virginia for the present and immediate future, there appear to be several important requirements in order to maintain control over the refuse problem:

Fix responsibility. Each local government should be required by law or regulation to provide suitable refuse disposal facilities for its citizens and operate them in a safe and sanitary manner.

Separate the urban problem from the rural problem. The solutions of these two are entirely different in both procedure and magnitude and, therefore, should be considered separately.

Develop a new philosophy toward solid waste. Now solid waste is considered an undesirable commodity which must be gotten rid of. It should be emphasized that solid waste is a material which can be used to build a useful facility.

Develop cooperation among adjoining communities. Many times the core city is without space, while surrounding areas do have suitable sites. By cooperating on joint operations, all can solve their problems with considerable saving to the several parties involved.

Develop an active concern over this problem. There is a general reluctance to even talk about the matter. The general public should be informed, but more important is the need to develop concern among the people in responsible charge, such as city and town councilmen and members of boards of supervisors. The magnitude and urgency of the problem need to be brought out into the open.

Diagnostic Laboratory Medicine....

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Lipoproteins in Clinical Medicine

Of the many plasma lipids, those of most concern clinically are cholesterol, phospholipids, glycerides, and free fatty acids. All are transported in blood in association with proteins. Free fatty acids are carried principally by albumin. Cholesterol, phospholipids, and glycerides (virtually all as triglycerides) are carried in varying proportions by alpha and beta globulins, thus the term "lipoproteins". Lipoproteins may be classified on the basis of density, ultracentrifugation flotation values, and electrophoretic mobility.

High density lipoproteins (HDL) can be separated by ultracentrifugation into multiple fractions with density values of 1.063 to 1.21. They are composed chiefly of phospholipid with lesser amounts of cholesterol and glycerides, and migrate with the alpha globulin fraction on electrophoresis.

Low density lipoproteins (LDL) have density values between 1.006 and 1.063 with S_f values (Svedberg flotation units) of 0-20, have a high cholesterol content, and migrate with the beta globulin fraction.

Very low density lipoproteins (VLDL) have densities lower than 1.006 with S_f values of 20-400 or greater, are high in content of endogenous triglycerides, and migrate in front of the beta globulin fraction, except in disc electrophoresis where they migrate behind.

Chylomicrons also have a density lower than 1.006, give S_f values of over 400, are composed of exogenous glycerides, and do not migrate in an electrical field.

In addition to blood concentrations of cholesterol and triglycerides, most clinical studies require only rough quantitation of the four groups of lipoproteins. At the present time, separation of the lipoprotein groups is best accomplished clinically by electrophoresis on paper,[1,2] cellulose acetate, agar gel, or other media, utilizing a lipid stain such as Oil Red O or Sudan Black.

The lipoprotein staining method described by Kohn[3] is also rapid and efficient. This involves lipid oxidation by ozone followed by staining with Schiff's reagent. Electrophoregrams can be quantitated by scanning in the conventional manner. In the normal lipoprotein electrophoretic pattern there may be three bands: alpha, beta, and a very light staining pre-beta. The pre-beta band can be absent normally.

Based on data recently reported,[4] it now appears that abnormalities of lipoproteins are more common than previously recognized.

Hyperlipoproteinemia may be either primary or secondary. The secondary form is an expression of altered metabolism due to some other disease. Primary hyperlipoproteinemia may be familial or sporadic. Familial hyperlipoproteinemia may or may not be inherited depending upon whether (1) a genetically determined biochemical defect is at fault, or (2) whether the fault is associated with acquired dietary excesses or indiscretions within families. Five primary types of hyperlipoproteinemia are currently recognized.

Type I is known as hyperchylomicronemia or familial fat-induced hyperlipemia. In this condition triglycerides are elevated and exceed cholesterol by a ratio of about 8:1. This rare condition usually becomes manifest in childhood and is characterized by bouts of colicky abdominal pain, eruptive xanthomas of the skin and oral mucosa, lactescent serum, hepatosplenomegaly, and lipemia retinalis. The diagnosis is established by a heavy chylomicron band on electro-

phoresis. Accelerated atherosclerosis is not reported and management is by moderate restriction of dietary fat.

Type II is known as hyperbetalipoproteinemia or familial hypercholesterolemia. This is one of the more common abnormalities. In this condition, there is marked increase in cholesterol and possibly slight increase in glycerides. Since glycerides, upon electrophoresis, can contribute to the beta band, this diagnosis should be made only if cholesterol is clearly elevated and triglycerides do not exceed 150 mgm%. Diagnosis of the primary, genetically determined, form requires:

1. Absence of other disease
2. Demonstration of a familial distribution
3. Xanthomatosis (tendon & tuberous)
4. Hyperbetalipoproteinemia

This is the form of hyperlipemia most commonly associated with atheromatosis, particularly involvement of coronary arteries. The incidence of diabetes mellitus is not increased and glucose tolerance is usually normal. Type II is the most difficult to treat, both with diet and drug therapy. The recommended diet is low in cholesterol and saturated fats. Clofibrate is the drug most commonly administered and cholestyramine may be helpful, however, no drug is considered entirely satisfactory and safe.

Interpretation of electrophoretic patterns of hyperbetalipoproteinemia should be made with caution, since diets high in cholesterol may secondarily elevate blood cholesterol and produce heavy beta lipoprotein bands. Of the secondary forms of Type II, hypothyroidism is quite common. However, when a myxedematous individual is made euthyroid, his lipoprotein electrophoretic pattern should revert to normal. Other causes of secondary hyperbetalipoproteinemia are obstructive hepatic disease and nephrotic syndrome.

Type III hyperlipoproteinemia is characterized by increased lipoproteins having beta electrophoretic mobility and low density. There is associated hypercholesterolemia and hyperglyceridemia, but extreme variability of cholesterol and triglycerides is characteristic of Type III. The electrophoretic pattern is one of a broad heavy beta band extending into the pre-beta area. This is the principal difference between this type and Type II, smearing into the pre-beta area of a very low density lipoprotein. Clinically, this type is characterized by xanthomatosis (tuberous, tendon, and planar) and atheromatosis. Glucose tolerance is frequently abnormal and hyperlipemia may be carbohydrate inducible.

Type IV or hyper-prebetalipoproteinemia is probably the most common type. Its genetic transmission is poorly understood as there has been very little documentation of familial patterns. Carbohydrate-induced hyperlipemia is a striking feature of this condition. Abnormal glucose tolerance is often associated, and frequently a family history of diabetes mellitus is elicited. Clinically, those affected may show xanthomatosis, obesity, and episodic abdominal pain. The lipoprotein electrophoresis is characterized by a heavy pre-beta band and may show a decrease in the beta and alpha bands. Type IV is frequently associated with gout and/or hyperuricemia. Blood cholesterol may be normal or slightly elevated, but there is definite increase in triglycerides. Retrospective studies suggest correlation of this type of hyperlipoproteinemia with atherosclerosis, particularly in young men with arteriosclerotic heart disease.

Management of Types III and IV consists chiefly of weight control and restriction of dietary carbohydrates, cholesterol, and saturated fats. If, however, dietary therapy is not successful, these patients may be treated with drugs such as chlorophenoxyisobutyric acid. Type III and IV have been reported[5] to respond quite well to this drug.

The following conditions may be associated with Type IV (secondary) hyperlipoproteinemia:

1. Diabetes Mellitus

2. Pancreatitis and Alcoholism
3. Glycogen Storage Disease
4. Idiopathic Hypercalcemia
5. Hypothyroidism
6. Nephrotic Syndrome (May also produce Type II)
7. Dysglobulinemia
8. Gestational Hormones

Type V hyperlipoproteinemia is characterized on electrophoresis by the presence of a chylomicron band and increased prebetalipoproteins. Blood cholesterol and glycerides may be elevated but are quite variable. Observation of plasma after allowing it to stand overnight under refrigeration can be helpful, since the chylomicrons appear as a cream layer on top. Type V hyperlipoproteinemia occurs in both males and females. Symptoms first appear in the late teens to the third decade of life. The most common complaint is recurrent abdominal pain, which has often led to exploratory surgery. Xanthamatosis may be present. The affected individual is frequently obese and there is often a family history of diabetes mellitus. Glucose tolerance is characteristically abnormal. The genetic transmission is incompletely understood. The recommended diet is low in fats and carbohydrates.

Two rare, but well documented, hereditary diseases manifesting reduction or absence of certain lipoproteins have been described:

A beta-lipoproteinemia,[6] an autosomal recessive trait, is characterized by absence of low density beta lipoproteins. There is an associated syndrome consisting of degeneration of the posterolateral columns and cerebellar tracts, acanthocytosis, pigmentary degeneration of the retina, and engorgement of upper intestinal mucosal cells with triglycerides.

Tangier disease[7] is characterized by absence of high density alpha lipoproteins. In the heterozygous state there may be only a reduction in high density lipoproteins. The homozygous state shows the complete syndrome of absence of high density lipoproteins and storage of cholesterol esters in reticuloendothelial tissues, particularly the tonsils. Plasma cholesterol is characteristically low and triglycerides are normal or slightly elevated.

In conclusion, the following procedures are suggested for routine investigation of lipid metabolism:

1. Inspection of serum for lactescence or turbidity
2. Cholesterol
3. Triglycerides
4. Lipoprotein Electrophoresis

For more compelte study of Types III, IV, and V hyperlipoproteinemia a glucose tolerance test is also available. Prior to lipoprotein study, patients should be on normal diets for at least two weeks. They should also fast for 10-12 hours prior to collection of blood for lipoprotein studies.

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Indication—Oral contraception.

Contraindications—Thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia, undiagnosed abnormal genital bleeding.

Warnings—Watch for the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism, retinal thrombosis); if present or suspected discontinue the drug immediately.

British studies reported in April 1968[1,2] estimate there is a seven- to tenfold increase in mortality and morbidity due to thromboembolic diseases in women taking oral contraceptives. In these controlled retrospective studies, involving 36 reported deaths and 58 hospitalizations due to "idiopathic" thromboembolism, statistical evaluation indicated that the differences observed between users and non-users were highly significant. The conclusions reached in the studies are summarized in the table below:

Comparison of Mortality and Hospitalization Rates Due to Thromboembolic Disease in Users and Non-Users of Oral Contraceptives in Britain.

Category	Mortality Rates		Hospitalization Rates (Morbidity)
	Age 20-34	Age 35-44	Age 20-44
Users of Oral Contraceptives	1.5/100,000	3.9/100,000	47/100,000
Non-Users	0.2/100,000	0.5/100,000	5/100,000

No comparable studies are yet available in the United States. The British data, especially as they indicate the magnitude of the increased risk to the individual patient, cannot be applied directly to women in other countries in which the incidences of spontaneously occurring thromboembolic disease may differ.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or sudden onset of proptosis, diplopia or migraine. Withdraw medication if papilledema or retinal vascular lesions are found.

Since the safety of Ovulen in pregnancy has not been demonstrated, it is recommended that pregnancy be ruled out for any patient who has missed two consecutive periods before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the first missed period.

A small fraction of the hormone agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect on the nursing infant cannot be determined at this time.

Precautions—Pretreatment physical examination should include special reference to the breasts and pelvic organs, and a Papanicolaou smear.

Endocrine and possibly liver function tests may be affected by Ovulen. Therefore, it is recommended that such tests if abnormal be repeated after the drug has been withdrawn for two months.

Pre-existing uterine fibromyomas may increase in size under the influence of progestagen-estrogen preparations.

Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation.

In breakthrough bleeding, and all irregular vaginal bleeding, consider nonfunctional causes. Adequate diagnostic measures are indicated in undiagnosed vaginal bleeding.

Carefully observe patients with a history of psychic depression and discontinue the drug if severe depression recurs.

Any possible influence of prolonged Ovulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study.

A decrease in glucose tolerance has occurred in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be observed carefully while receiving Ovulen.

Because of the effects of estrogens on epiphyseal closure Ovulen should be used judiciously in young patients in whom bone growth is not complete.

The age of the patient constitutes no absolute limiting factor, although Ovulen therapy may mask the onset of the climacteric.

The pathologist should be informed of Ovulen therapy when relevant specimens are submitted.

Adverse Reactions—A statistically significant association has been shown between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: cerebrovascular accidents, neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement, secretion), change in weight, changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, allergic rash, rise in blood pressure in susceptible individuals, mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme and nodosum, hemorrhagic eruption, itching. The following laboratory results may be altered by oral contraceptives: hepatic function: increased sulfobromophthalein and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T^3 uptake values; metyrapone test; pregnanediol determination.



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Mental Health . . . .

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Alcoholics' Admissions on Rise

The admissions of alcoholics to the State's mental hospitals has been on the rise during the past year, according to the superintendents of the hospitals.

In July, the admission of alcoholics reached an all-time high at Southwestern State Hospital in Marion.

Central State Hospital in Petersburg and Western State Hospital in Staunton also reported increases. A "very slight" increase was noted at Eastern State Hospital in Williamsburg.

Several hospital superintendents cited the relaxation in acceptance of voluntary admissions to State hospitals and more frequent commitment of alcoholics to hospitals instead of jails, by court order, as reasons for the increase.

Southwestern State had 60 alcoholic patients admitted to the hospital in July, according to Dr. Joseph R. Blalock, superintendent. The average for the previous three months was 55.

Dr. Milton H. Kibbe, superintendent at Central State, reported 900 admissions in alcoholic patients over the past year.

He said that 98 per cent of the admissions were male and more than 50 per cent were voluntary.

About half of all male admissions at Western State are alcoholics, according to Dr. Hobart G. Hansen, superintendent.

Admissions of alcoholics to Western State has been running between 30 and 40 a month. There has been a steady increase recently. In July there were 62; in June, 48; in May, 51 and April, 51.

Dr. Howard H. Ashbury, superintendent at Eastern State, said there had been "no excessive" increase in admission of alcoholics at Eastern. About 535 were admitted last year, he said.

Dr. Ashbury also said admission of alcoholics appears to be seasonal at Eastern State Hospital. Admissions increase during the winter months and taper off during the summer months, he reported.

Overall Increase

Dr. Blalock and Dr. Hansen both noted, however, that there was an overall increase in all patients.

"There really isn't that much gain in just alcoholic patients," said Dr. Hansen.

Also a lot of the admissions at Southwestern are readmissions, reported Dr. Blalock.

"We can't very well keep them more than two weeks because our space fills up so quickly," he said.

"And many don't seem motivated to stay sober," said Dr. Blalock. "Many have three or four dozen admissions through the years."

The average hospital stay of an alcoholic patient at Central State is 25 to 30 days, according to Dr. Kibbe. "But quite a few are released within seven to 15 days at the request of the patient or family."

Dr. Kibbe said Central State's 53-bed alcoholic ward stays filled all the time. The hospital also has as many as 20 patients waiting for treatment.

Group Therapy

Treatment at Central consists of group therapy twice a week, Alcoholics Anony-

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LINDSEY, ALBERTA, *Staff writer for the Richmond News Leader.*

Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

This article is reprinted from the Richmond News Leader, Friday, August 22, 1969.

mous meetings once a week, vocational rehabilitation and drug therapy.

One of the aspects of the increased admission of alcoholics that disturbs Dr. Kibbe is the "bad shortage of personnel" the State hospitals already have.

"Perhaps there should be a separate institution for them," he suggested. "They don't like to be associated with the mentally ill or mentally retarded."

Dr. Kibbe pointed out that some states have special treatment centers for alcoholics. There is one at the Medical College of Virginia, health sciences division of Virginia Commonwealth University, "but it isn't large enough to take care of the number of alcoholics we have to treat."

State Code Changed

Dr. Hansen said he had noticed an increase in admission of alcoholics, particularly since the latter part of last year, when the State code was changed to encourage voluntary admissions for all patients.

Between 15 and 30 per cent of the admissions to Western State are voluntary, said Dr. Hansen.

"We must face the fact that we have, up until this time, had a lot more to offer the truly mentally ill person than we have to offer the alcoholics," he said.

"Although we call alcoholism a disease, we are a long way from knowing what to do about it," he added. "AA is probably more effective than anything else."

Let's Reminisce!

Massage of the Abdomen with a Cannon-Ball.

An efficient massage of the abdomen for the relief of constipation cannot be easily carried out by patients in the usual way. It requires a good deal of energy on the part of the person himself, and to pay an expert is too expensive for every one. In order to overcome these difficulties, Sahli has advocated the following: The patients lie flat on their backs and roll around on their abdomens, for ten minutes, a cannon-ball weighing from three to six pounds. The manner of massage may be easily modified by pressure on the ball, or raising and gently letting it fall—the direction of rolling may be reversed, etc. Sahli, however, recommends that the ball be rolled from the colcum towards the flexura sigmoidea, and thus in a mechanical manner propel the faeces onward. In winter the ball may first be warmed in hot water, or covered with woolen or flannel material.—*Rundschau,* Feb. 1, 1888. (Reprinted from Virginia Medical Monthly, April 1888)

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Miscellaneous . . . .

Excerpts from Monthly Surgery Committee Meeting, The Memorial Hospital, Danville, September, 1969.

The entire meeting will be devoted to the discussion of peptic ulcer diseases and its complications as seen in Memorial Hospital, Danville.

A review of 100 consecutive gastric procedures performed at Memorial Hospital, between 1965 and 1966 revealed the following:

Sixteen vagotomies and pyloroplasties and 14 plications of perforated ulcers were undertaken without a death.

Seventeen vagotomies and antrectomies were undertaken with one death.

There were four postoperative complications in the above groups. These were all anastomotic obstructions. The causes of these obstructions were excessive tension at the anastomosis, obstruction secondary to a cicatrix formed by chronically inflamed omentum which had been placed around the anastomosis, the actual healing together of the anterior and posterior edges of the anastomosis, and pyloric obstruction due to chronic duodenal ulcer disease. This last complication was found in one of the cases of perforated ulcers which was treated by simple plication. All these complications were treated by simple gastroenterostomy, and the patients had an uncomplicated postoperative course and have subsequently done very well.

Fifty-three patients underwent subtotal gastrectomy. Fifteen of these procedures were undertaken for intractable bleeding. Four patients died in the immediate postoperative period creating a mortality rate of 7 per cent. The morbidity rate in this group was 22 per cent. Three patients developed bleeding marginal ulcers, and six developed severe dumping syndrome which required surgical correction by converting the Billroth II to a Billroth I drainage. It is of interest that all of these six patients had concomitant ventral hernias. Three of the four deaths were due to duodenal stump dehiscence, and one which initially was thought to be a duodenal stump dehiscence proved at autopsy to be due to a gangrenous cholecystitis.

Dr. Harvie, as an internist, what are your indications for surgery in peptic ulcer disease?

Dr. Harvie: In management of peptic ulcer, surgery is usually advised for complications. Since the decision whether to operate or not to operate is often difficult, when applied to the individual case, complete and honest cooperation between surgeon and internist is necessary. The goal of treatment is to achieve a reasonably comfortable, productive, and useful existence for the patient. Just as this goal may be thwarted by ill-advised or premature surgical intervention, the stubborn persistence of futile medical management can be equally devastating.

1. Complications of peptic ulcer disease requiring surgical correction.

A. Free perforation: Early recognition and operation, usually simple closure, are essential for successful management. When the patient is not seen for 12 to 24 hours after perforation and is doing well, medical treatment is advocated by many authorities. Difficulties are often encountered in this situation, however, and it is probably best to operate on all patients who have free perforation unless an urgent contraindication to surgery exists. Emergency subtotal gastrectomy is not usually advocated in this situation because of free peritoneal soiling. Recent reports, however, have demonstrated the efficacy of pyloroplasty and vagotomy

when surgery is undertaken within three hours of the perforation.

B. Cicatricial obstruction: This may be caused by frequent ulcer recurrences in close proximity, especially in the prepyloric area or duodenal cap, or free or confined perforation. If gastric stasis persists after one week of intensive medical treatment including three days of continuous gastric suction, surgical intervention is generally indicated. However, cicatricial obstruction must be distinguished from obstruction due to spasm, edema, or inflammation adjacent to an ulcer, since these usually cause only temporary obstruction, and medical management is usually successful.

C. Hemorrhage: Emergency operation is usually indicated for massive bleeding to or near shock level, in which the bleeding is continuous and uncontrolled after six to eight units of blood. Also, if bleeding is controlled initially then recurs while the patient is still in the hospital or if massive bleeding occurs for the first time in a hospitalized patient on a strict medical regimen, operation is indicated. If an adequate amount of blood is not available or if crossmatching becomes difficult because of AB-O incompatibility, operation may be required sooner than usual. Other factors that might influence the decision to operate include postbulbar ulceration, pyloric obstruction, previous history of gastrointestinal bleeding, or advanced age. It is of utmost importance for the internist and surgeon to follow the patients together from the time of admission, since each patient must be considered individually, and the decision to operate is easier if both are familiar with the patient's course from the beginning. When a patient recovers from immediate episodes of bleeding but is still a candidate for operation, it is best to do elective surgery 5 or 6 weeks later. This often permits edema, inflammation, etc. to subside while allowing time to improve the patient's general nutrition as well as his respiratory, cardiac, and renal status.

D. Intractability: Intractability refers to the inability to relieve symptoms despite the most rigid and proper medical regimen. Pain alone is not an indication for operation, as such patients are rarely benefited by surgery. The pain may, however, be due to unrecognized complications, and these must be carefully sought. A few examples are:

1. Penetration of the ulcer crater with development of a walled off confined perforation.
2. Pancreatic adenoma, Zollinger-Ellison syndrome in which total gastrectomy is the only reliable way to control the ulcer diathesis.
3. The presence of polyganglia endocrine adenomatosis.
4. Grade IV cicatrix which interferes with healing.
5. Postbulbar location of the ulcer.
6. Associated chronic gastritis as well as failure to stop smoking.

These are only a few examples of the conditions that can cause intractability but emphasize the need for careful and thorough evaluation before a patient is operated upon or else denied operation because of an erroneous diagnosis of psychoneurosis or other personality disorder as a cause of his unremitting pain.

Dr. Stoneburner: In preparation for this discussion, I briefly surveyed the literature and wish to make the following comments concerning how other surgeons feel. Hoer, Wineberg, and Burdette have reported extensively on their experience with vagotomy and pyloroplasty. The mortality for this procedure when it was undertaken electively was 0.4 per cent. However, recurrences were found in from 4 to 7 per cent of these patients within five years. The cause of recurrence, however, has been incomplete

vagotomy. These same authors have treated a number of patients with this procedure who were bleeding massively from their ulcer. Mortality in this instance has been 28.5 per cent. This figure is considerably higher than the mortality from subtotal gastrectomy in the face of massive bleeding and probably reflects the high incidence of rebleeding in this particular group.

Burdette and Hoer do routine and overnight gastric secretion studies on their patients. A 12-hour volume has averaged around 781 ccs. with approximately 32 milliequivalents of free acid being present. This represents 40 units of free acid. Burdette and Galligher have reported their experience with large series of antrectomies and vagotomies. In their series, they have found less than 1 per cent recurrence. However, the mortality for this group was in the neighborhood of 1 per cent. An entity which has long been a therapeutic disaster to both the surgeon and internist has been the treatment of hemorrhagic gastritis. Recently, Waddell has reported an extensive experience with this entity which may be helpful in future treatment of this condition. Waddell stated that in his experience approximately 80 per cent of these cases required surgery because of massive bleeding. In his series, pyloroplasty and vagotomy were undertaken as primary treatment. Secondary bleeding developed in 18.5 per cent of his patients. Reoperation was required in 5.5 per cent and the mortality was 9 per cent. In a concomitant group treated by Waddell, a subtotal gastric resection was undertaken and, although the rebleeding only appeared in 8 per cent of the postoperative patients, his operative mortality was a formidable 20 per cent. More recently, Burdette, Woodward, and Wangensteen have shown that the presence of gastritis whether it is due to aspirin, alcohol, or stress in some way initiated the release of gastrin from the antrum. The presence of high amounts of acid within the stomach secondary to the stimulation plus a breakdown of the gastric mucous barrier due to the gastritis has perpetrated a therapeutic enigma. Burdette has treated a number of patients for this condition by means of vagotomy and antrectomy without a mortality and without any rebleeding. The Burdette series is small, however, it is encouraging and careful thought should be given to this particular approach in the future.

Dr. Nevin: Since 1965, at Memorial Hospital there have been six duodenal stump disruptions following gastrectomy and Billroth II drainage procedures. Four of these occurred in patients who underwent surgery for severe upper gastrointestinal bleeding. All of these patients had long standing severe peptic ulcer disease which had shown inappropriate response to medical management and whose complications had been such that a surgical approach should have been considered earlier.

Dr. Silverman, you helped analyze the records of these patients. From your analysis, can you make any suggestions as to appropriate treatment for this condition?

Dr. Silverman: My analysis of these cases revealed remarkable similar courses which suggested that the following management techniques should be considered in the future.

1. The acute onset of abdominal pain with sepsis which begins in the early postoperative course of a gastrectomy patient requires immediate surgical exploration and drainage. In two patients where this was not done, one patient died from bile peritonitis and the other from acute gangrenous cholecystitis.

2. Once the diagnosis of duodenal stump dehiscence has been established and a proper drainage procedure undertaken, the upper G.I. tract of the patient should be put to rest until signs of sepsis and toxicity have passed.

3. These patients are extremely ill and require maximum care. Even a very

slight stress such as minimal ambulation or a trip to the x-ray department for appropriate x-ray studies has precipitated upper G.I. bleeding from stress ulcers, and this should be avoided.

4. Proper gastric drainage, appropriate antibiotics (selected after culture and sensitivities), special attention to caloric intake, including establishment of a feeding jejunostomy when indicated, proper fluid replacement, proper drainage of abscesses when they develop, will generally result in a successful outcome.

5. Appropriate drainage of the duodenum by means of an indwelling sump tube placed at the time of surgery may prevent these complications. One of our duodenum stump dehiscences developed in spite of such a tube, therefore, the presence of a tube does not rule out the possibility of such complications developing. Drainage of the doudenal stump area by means of a Penrose drain placed at the time of surgery is seldom adequate in the face of stump dehiscence.

Dr. Morrison: It is of interest to me that those patients who developed postoperative duodenal stump dehiscence also developed recurrent bleeding which ultimately was the major factor responsible for the mortality. The average number of blood transfusions received by these patients after onset of complications was 14 units. In several instances, low molecular weight dextran was given as a blood flow promoting agent and blood volume expander, however, this resulted in severe oliguria. This oliguric renal syndrome complicated this already complex therapeutic problem.

Dr. Leonhardt, do you feel that the low molecular weight dextran was responsible for the oliguria in question, and is it a good volume expander?

Dr. Leonhardt: This complication could tentatively be attributed to the use of low molecular weight dextran, that is L.M.W.D., dextran 40, rheotrane, rheomacrode. There are a few cases in the record where oliguric renal failure developed soon after rapid infusion of the plasma expander and blood flow promoting agent. Perhaps the term oliguric renal syndrome would be more appropriate since the condition appeared to be reversible, especially if diuresis is promptly established by means of intravenous hydration and osmotic diuretics. On the other hand, not recognizing this possible complication, the impairment might be progressive and clinically indistinguishable from acute tubular necrosis. Differential diagnosis between the two conditions, therefore, is a sine qua non and preceding episodes of shock or hypoxemia might exclude consideration of dextran 40 as an etiologic factor. As far as the pathogenesis of this oliguric syndrome is concerned, a rapid elimination through the kidneys of dextran 40 as opposed to dextran 70 has been incriminated. Accordingly, in the absence of adequate urine flow, dextran is thought to accumulate in the tubules and, becoming more and more concentrated and viscus, obstructs the lower nephron. For me, the lesson to be learned from this rare occurrence is to use the material only in combination with adequate intravenous fluid and electrolyte therapy and/or Mannitol administration.

Dr. Nevin: A great deal of research has been undertaken in attempts to discover the pharmacologic action of low molecular weight dextran. It has been shown by Emerson and his group that total tissue water is increased both in patients receiving low molecular weight dextran and in patients who are hypoxic. This combination of events leads to severe cellular hypoxia because of the increased total cellular water, the hypoxia that is already present, and the fact that low molecular weight dextran actually inhibits cellular respiration. It should be emphasized that low molecular weight dextran is not an osmotic diuretic and therefore should not be given to patients who are in hypovolemic shock. Low molecular

weight dextran, by some action on the red blood cell has a capacity of prohibiting sludging of the blood and thus improves flow properties of the blood. The agent should be used only in those conditions where these particular properties are desired.

Dr. Nevin: In summary, vagotomy combined with either antrectomy or pyloroplasty seems to be the procedure of choice in patients with duodenal ulcer disease requiring surgical management. In those patients where the indication for surgery is massive upper G.I. bleeding, subtotal gastrectomy is probably still the procedure of choice although the other procedures will give satisfactory results. Surgical treatment of hemorrhagic gastritis should consist of either vagotomy and pyloroplasty or vagotomy and antrectomy. Low molecular weight dextran should not be used as a blood volume expander in hypovolemic shock unless given in combination with large quantities of intravenous fluids or Mannitol.

James E. Nevin, III, M.D.
Chairman

Issuance of U.S.P. Commemorative Stamp

The United States Pharmacopeia came into being 150 years ago as a result of action at the local level in the medical society of the County of New York. Ever since 1820, when Dr. Lyman Spalding and ten other physicians met as delegates to the first U.S.P.C. in Washington, D. C., in the Old Senate Chamber of the Capitol Building, the United States Pharmacopeia and physicians have had a mutually beneficial relationship. The U.S.P. Committee of Revision is dependent upon its medical specialists for selection of the drugs to be recognized in the Pharmacopeia; the U.S.P. then provides pharmaceutical standards for those drugs thereby assuring physicians of their quality, strength, and purity. U.S.P. standards are enforced by the federal Food and Drug Administration, thereby making this a unique model of cooperation between the professions, government, and industry.

As in 1820, we are once again appealing to the medical profession. We are seeking to obtain the issuance of a commemorative stamp. Such a stamp would not only commemorate the founding of the Pharmacopeia, honor the medical and pharmacy professions, but it would also bring to public attention the existence of this voluntary cooperative effort between government, industry, and the professions. I believe this to be especially important at this time.

I would appreciate your informing the physician readers of your publication of this opportunity and urge them to write to their congressmen requesting such a commemorative stamp.

Joseph C. Valentine, Esq.
Executive Assistant

The Medical Society of Virginia . . . .

Minutes of the Council

A meeting of the Council of The Medical Society of Virginia was held on Sunday, September 14, at Society headquarters.

Members Present: Dr. F. Ashton Carmines, Dr. William Grossmann, Dr. Michael A. Puzak, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. William S. Hotchkiss, Dr. F. H. McGovern, Dr. John A. Martin, Dr. James C. Respess, Dr. William D. Liddle, Jr., Dr. Carl E. Stark and Dr. Carl P. Parker, Jr.

Others Present: Dr. Robert L. A. Keeley, Second Vice-President; Dr. Thomas S. Edwards, Vice-Speaker; Dr. W. Linwood Ball and Dr. Allen Barker, AMA Delegates; Dr. Russell M. Cox, Secretary-Treasurer, Virginia Board of Medical Examiners; Dr. Kinloch Nelson, Dean, Medical College of Virginia School of Medicine; Mr. Chad Combs, Assistant Director, AMA Department of Field Service; and Mr. William R. Miller, attorney for the Society.

Hearing Aid Dealers

Dr. Cary N. Moon, Jr., Chairman of the Committee on Conservation of Hearing, discussed a proposed Bill for the licensing of Hearing Aid Dealers and Fitters. His Committee has met jointly with representatives of the Hearing Aid Dealers and the Bill seems generally acceptable to all. It is designed essentially to protect the consumer by improving the overall performance of Hearing Aid Fitters and the marketing of hearing aids. The Bill would also regulate the activities of Dealers and establish minimum qualification standards and define the scope of their operations.

The Bill would in no way affect the proper scope of services which Hearing Aid Dealers and Fitters have traditionally provided. It definitely would permit no encroachment where medical practice is concerned.

Dr. Grossmann moved that the proposed legislation be referred to the Legislative Committee for its recommendation. The referral would be made with the hope that the Committee might consider the legislation before the October meeting of the House of Delegates. *The motion was seconded and adopted.*

Podiatry

Dr. Milton D. Cummins and Dr. Ted Levy, representing the Podiatry Society of Virginia, discussed the wish of that organization to establish a closer relationship with members of the medical profession. Dr. Cummins expressed the feeling that there does exist a lack of understanding as to podiatry and its objectives and expressed the hope that an ad hoc committee might be appointed by The Medical Society of Virginia to seek ways of establishing a better and closer working relationship between the two groups.

Dr. Cox recalled that the Board of Medical Examiners had, just a few years back, sent a letter to all Virginia physicians concerning the practice of podiatry. He stated that he had found podiatrists to be highly competent and ethical and that the experience of the Board of Medical Examiners had been most favorable.

Dr. Cummins went on to state that any and all actions taken by medicine directly affect the practice of podiatry. He pointed out that under the laws governing Medicare and Medicaid, a patient must be referred to a podiatrist by a physician. This, in Dr. Cummins' opinion, increases the cost of care under these programs. He went on to say that podiatrists would like to have the same privileges as those enjoyed by oral surgeons.

There followed considerable discussion during which some fear was expressed that any changes in the Medicaid program might force the costs beyond acceptable limits. Apparently this has been true in some other states.

A motion was then offered by Dr. Stark which would refer the matter to a special study committee with the request that it report back to Council as soon as possible. The motion was seconded.

A substitute motion was introduced by Dr. Liddle which would require that the committee be a combination study and liaison unit—with a life of three months. The motion was seconded.

After it was learned that both motions had the same idea in mind, Dr. Liddle requested that the substitute be withdrawn.

Dr. Stark's original motion was then adopted.

Public Relations

The Society has, for some time, been concerned about harmful and misleading information appearing



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Dosage: One to two teaspoonfuls (5 ml. to 10 ml.) between meals and at bedtime or whenever symptoms occur. Certain conditions, such as acute peptic ulcer, may require individualized dosage. If diarrhea occurs, reduce dosage or discontinue use.

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in the press and various other publications. Some of our members have felt that, if the Society is to be truly effective in defending itself against this publicity, a professionally designed and administered public relations program is desirable. Consequently, arrangements were made for Mr. Robert Kline, President of the Robert Kline Advertising Agency, to present a proposed PR program. Mr. Kline was accompanied by Mr. Guy Neal and Mr. Handley Wright.

Mr. Kline expressed the opinion that medicine has now entered a very critical era and that every effort should be made to improve its public image. He stated that his Agency's proposed program was designed to generate greater public appreciation and understanding of the role of Virginia physicians and correct any misunderstandings that may exist concerning fee structures. The program is designed for the long-range approach and would deal with such areas as fees, civic responsibility, integrity, office and facilities, competence in service, importance of the various specialties, etc.

The proposal contained numerous projects—including monthly releases for editors, legislators, newscasters, business executives, etc.; development of effective speakers bureaus; production of dramatic radio shows, public service television spots; preparation of feature stories dramatizing the role of physicians in Virginia; etc.

The cost of a full-fledged professional program is considerable and it was the opinion of Council that the matter should be studied in detail by a special committee. It was agreed that the Society's Public Relations Committee should be consulted on the overall PR effort.

Dr. Parker then moved that the special committee studying the future mission of the Society consider the matter thoroughly when it meets on September 29 and make known its recommendations at the Council meeting on October 16. The motion was seconded.

A substitute motion was then introduced which would have a special committee of Council study the matter and report its findings and recommendations as soon as possible. The substitute motion was seconded.

An amendment calling for the committee to meet with members of the Public Relations Committee and, if possible, with the committee studying the Society's future mission, was accepted. Dr. Parker's original motion was then withdrawn.

The substitute motion, as amended, was adopted.

Preventable Blindness

Dr. Mason Smith, representing the Virginia Society of Ophthalmology and Otolaryngology, requested the Society's support and cooperation in seeking enactment of legislation designed to reduce the incidence of preventable blindness. The purpose of the legislation is to recognize and clearly define the qualifications and responsibilities of optometrists and ophthalmologists in their special fields as applied to health care of the public. A great deal of misunderstanding exists at the present time regarding the role of each profession in specific diseases, injuries or conditions of the human eye, in which proper treatment may prevent blindness.

One of the key provisions of the proposed legislation would make it mandatory that—

> "Any person engaged in an examination of human eyes who determines the visual acuity of either eye with best refractive correction to be less than 20/40 (Snellen) or who is unable to see clearly the structures inside the back of the eye (retina) or who discovers any indication of increased intraocular pressure shall within ten days of such examination refer such individual to a duly licensed practicing physician for medical diagnosis and evaluation for treatment when determined necessary by said physician."

Dr. Smith stressed the fact that the proposed legislation would in no way restrict physicians as to their referrals.

Dr. Salley moved that the matter be referred to the Committee on Conservation of Sight with the request that it be included in its annual report to the House of Delegates. *The motion was seconded and adopted.*

The Secretary was requested to obtain such facts and figures bearing on the need of such legislation as might be available from other states.

VaMPAC

Dr. Alvin E. Conner, Chairman of VaMPAC, reviewed that organization's progress and accomplishments since its founding. The last two years have been encouraging from the membership point of view, but much remains to be done. VaMPAC is currently endeavoring to increase its financial base and become as self-sustaining as possible. Corporate contacts are being increased and other areas of support explored.

Dr. Conner pointed out that experience over the Nation has indicated that billing methods have a very

definite effect on the size of the membership. He discussed methods used in other states and expressed the hope that the dues statement of The Medical Society of Virginia could be changed in such manner as to more effectively encourage physicians to join VaMPAC.

The principal change in the statement would provide a grand total of Society and VaMPAC dues. The statement would continue to point out that VaMPAC dues are not tax deductible.

Mr. Miller pointed out the importance of maintaining a clear line of division between the Society and VaMPAC. It was pointed out that an agent of the Internal Revenue Service, in a recent audit, had expressed some interest in the relationship of the two groups and that great care should be exercised in this regard.

It was then moved by Dr. Liddle that the Society's dues statement be modified in accordance with Dr. Conner's recommendations. *The motion was seconded and adopted.* Dr. Salley was recorded as being opposed.

Physician's Assistant

Dr. Cox alerted Council concerning a problem which will soon confront the Board of Medical Examiners. Physicians' assistants are now being graduated at Duke and twenty-five other medical schools are reported to be training students in this particular field. This will obviously pose a problem for the Board of Medical Examiners since the matter of licensure, etc. must be considered. Dr. Cox went on to say that Duke is preparing a model bill for the various state legislatures.

Council was requested to give a great deal of thought to the problem and be prepared to discuss it in detail on October 16. It was suggested that the Committee on Medical Service be contacted in the hope that some suggestions might be obtained before the October 16 meeting.

Retirement Program

The Insurance Committee reported an increasing number of Virginia physicians are being employed on a salary basis by hospitals. Consequently, there exists a need for a group tax-sheltered annuity plan for such individuals employed by eligible nonprofit hospitals.

The Internal Revenue Code provides that employees of certain nonprofit institutions, such as hospitals, may have up to 1/6 of their pay set aside for retirement and the money will not be included in their income for Federal income tax purposes. Any investment income earned on these funds is not reported as current taxable income. Just as in a Keogh program, monies which would ordinarily be paid out as tax dollars are invested for the participant and the investment income accumulates free from Federal income tax until withdrawn at retirement.

A proposed resolution approving such a program was considered but there were some questions which Council believed required further research. It is particularly important that Council know whether such a program would be in conflict with Virginia statutes having to do with the corporate practice of medicine.

A motion by Dr. Puzak called for the matter to be submitted to the House of Delegates as a report from the Insurance Committee. *The motion was seconded and adopted.*

"Exempt Narcotics"

Careful consideration was given a resolution from the Norfolk County Medical Society calling for more effective restrictions and controls over the sale of drugs falling in the category of "exempt narcotics". These are drugs which may be sold over the counter to anyone without regard or restriction to age and can be purchased in quantity by those willing to go from one store to another.

Dr. Salley moved that the "RESOLVED" portion of the resolution be amended to read as follows:

> "RESOLVED, that The Medical Society of Virginia request the State Board of Pharmacy, at its next meeting, to consider the immediate exercise of its authority to initiate restriction of the sale of all 'exempt narcotics' so that they are available only on prescription of a duly licensed health practitioner in this state."

The motion was seconded and carried.

The question was raised as to whether the State Board of Pharmacy possesses the necessary regulatory powers. Mr. Miller stated that the Board is attempting to meet the problem as far as the provider is concerned.

Some concern was voiced over the fact that the inclusion of additional drugs in the "by prescription only" category would complicate the Medicaid situation. It could conceivably increase the over-all cost by a considerable amount.

A motion to refer the resolution as amended to the Pharmacy Committee for further consideration was seconded and adopted.

Rules of Procedure

Council reviewed the Rules of Procedure governing the general order of business of the House of Delegates. Dr. Salley stated that there are many competent physicians in the House fully capable of serving as Chairmen of Reference Committees. Consequently, he considered it no longer necessary to impose restrictions in this regard. It was his recommendation that the second paragraph be amended to read as follows:

> "There shall be three Reference Committees—designated Reference Committee #1, Reference Committee #2 and Reference Committee No. 3. A Chairman for each Committee shall be appointed by the Speaker from among members of the House."

It was also Dr. Salley's suggestion that the third paragraph be amended by changing the first sentence to read as follows:

> "The membership of the three Reference Committees will be made up of the Chairman, the ten Councilors representing Congressional Districts, and ten delegates—one from each Congressional District—to be elected during District caucuses."

This brings the sentence into conformity with the proposed amendment to Paragraph 2.

A motion to amend the Rules of Procedure as recommended by Dr. Salley was seconded and adopted.

A suggestion was made that members of Council be advised ahead of time as to which Reference Committee they would be assigned. Also, it would be helpful if they could know just which reports, etc. would be referred to their particular Reference Committee.

Medicaid Billing

Dr. Carl P. Parker, Jr., stated that many physicians in his area are concerned about the complicated billing procedure necessary under Medicaid. The forms are extremely complicated and one out of every five is being returned for necessary corrections, additional information, etc.

It was brought out that the billing procedure currently being followed has been set up with computers in mind. Medicaid is becoming more and more a computer program and the coding required is, therefore, necessary. There was some thought, however, that perhaps the coding should be done by the intermediary rather than the physician's medical assistant.

It was agreed that the matter should be taken up with Dr. James Kenley, State Department of Health, in order that it might be considered by the Governor's Advisory Committee.

Computer

Council was advised that several physicians had expressed the opinion that, where Medicaid is concerned, they will eventually have to go to computerized systems. They pointed out that this will be necessary to keep and submit all of the information required. They further expressed the thought that State computer equipment might well be utilized by private physicians for billing purposes—at a reasonable fee.

It was learned that computers used in connection with Medicaid actually belong to Blue Cross-Blue Shield of Virginia and are not set up to provide billing services. It is planned, however, that code punch machines, connected directly with the computers, will be available from Blue Shield at a rental cost of approximately $15.00 per month. This should simplify the overall billing procedure somewhat and deserves careful consideration.

Drug Abuse

Congressman John O. Marsh, Jr. is working on a Drug Abuse Prevention Program for the Seventh Congressional District. The physician heading up the Program has invited The Medical Society of Virginia to serve as one of the sponsors. The Program will feature television and radio coverage, a workshop to be held in Charlottesville, and establishment of a balanced and objective educational program for colleges and high schools.

Everyone agreed that such an effort should be applauded but that sponsorship should come from those component medical societies within the Seventh District. Dr. Respess stated that he would look into the matter and work with Congressman Marsh in every possible manner.

Certification Procedures

Two resolutions having to do with certification procedures were brought to the attention of Council. One had been prepared by the Norfolk County Medical Society and deplored the detention of mentally ill persons in the City Jail for periods of several days while awaiting certification hearings. It was pointed out that Virginia law makes this unnecessary and called for strict adherence to those Sections of the

Code having to do with patient detention. The resolution also recommended that the Virginia statutes be amended to conform with modern psychiatric practice.

A resolution from the Tri-County Medical Society expressed the feeling that a fee of $50.00 per day for services rendered in connection with certification procedures is unrealistic and that an effort should be made to have the fee set at $25.00 per case.

Although it was learned that the Committee on Mental Health had approved both resolutions, Council was advised that additional action can be expected during the Annual Meeting. Consequently, it was determined to include both matters in Council's report to the House.

General Assembly

The Virginia Association of Professions is considering the advisability of entertaining members of the General Assembly with a special dinner some time after the first of the year. In order to do so, the Association must first have the approval of its member organizations.

Dr. Grossmann reported that he was quite impressed with a program of informal group discussions with legislators sponsored by the Virginia Academy of General Practice. These programs have been well received and apparently quite productive. It was Dr. Grossmann's feeling that a great deal could be accomplished if such programs could be sponsored by The Medical Society of Virginia—representing the medical profession as a whole.

Dr. Respess expressed the opinion that the Society should cooperate with the Virginia Association of Professions and introduced a motion to that effect. *The motion was seconded and adopted.*

It was then moved by Dr. Grossmann that the Society initiate a series of legislative discussions within the various Districts. The discussions with members of the General Assembly would be arranged with the assistance of the District Councilors. *The motion was seconded and adopted.*

American Association of Medical Assistants

Council was pleased to learn that Mrs. Ruth Dize, Norfolk, will soon be installed as President of the American Association of Medical Assistants. The installation will take place in Hawaii during October. A formal reception will be held following that Association's annual banquet and is expected to cost in excess of $500.00. It had been recommended that The Medical Society of Virginia assist the Virginia Association of Medical Assistants in this regard with a contribution.

It was moved by Dr. Salley that The Medical Society of Virginia contribute $100.00 toward the cost of the Presidential reception of the American Association of Medical Assistants. *The motion was seconded and carried.*

Travel Program

Many medical societies are now sponsoring annual tours for their members and have found these trips to be quite popular. The Medical Society of Virginia has been looking into the advisability of sponsoring such tours for the better part of a year and a very interesting trip to the Orient is tentatively scheduled for August, 1970. The trip would include visits to Tokyo and Hong Kong and would be medically oriented as much as possible.

It was agreed that the proposed trip should be sponsored as a service to the membership and a motion to this effect by Dr. Respess was seconded and adopted.

Abortions

The Virginia League For Planned Parenthood had, earlier in the year, invited The Medical Society of Virginia to act as cosponsor of a Conference on Abortions tentatively planned for late 1969. It was brought out that The Medical Society of Virginia has a very definite and well known policy on the matter of abortions and that the sponsoring of any Conference on the subject might cause some misunderstanding.

Dr. Liddle moved that the Virginia League For Planned Parenthood be advised concerning the Society's position and why it is not possible to cosponsor a Statewide Conference at this time. Notice would also be taken of the special study currently being conducted by a special VALC committee. *The motion was seconded and adopted.*

Credit Cards

Several component societies have requested a statement of policy on the use of credit cards in the payment of physicians' fees. The AMA Judicial Council has ruled that the use of charge card systems should be flexible and at the discretion of individual state medical societies. The Judicial Council also pointed out that the method of payment should not be dictated by the physician—but rather is a matter for the individual patient to decide.

A motion by Dr. Hotchkiss calling for the Society to adopt the following principles as reaffirmed by the AMA House of Delegates was seconded and adopted:

"1. The county medical society should be satisfied as to the financial and professional integrity of the plan. It should negotiate with the plan sponsors to insure that service charges to the physician are reasonable. It should insist that the plan be open to all physicians on the same terms and that it not exploit or capitalize on physicians' participation in the plan. It should advise the plan that the listing of physicians in directories of participating members is contrary to the ethics of the medical profession.

"2. The individual physician may not, because of his participation, increase his fee for medical service rendered the patient. He may not use the plan to solicit patients. He may not encourage patients to use the plan. His position must be that he accepts the plan as a convenience to patients who desire to use it. Plaques or other devices indicating participation in the plan within the physician's office shall be kept to a discreet and dignified minimum. Plaques, signs or other devices indicating such participation visible outside the physician's office are unacceptable.

"3. The use of a bank card in connection with the payment of larger fees—which might normally be paid to the physician in installments —is not to be encouraged. All members of the Association are expected to continue the traditional practice of permitting patients of limited means to pay relatively large fees in installments without interest or carrying charges. Out of respect for the dignity and traditions of the medical profession, the physician may not relieve himself of his obligations 'to render service to humanity, reward or financial gain being a subordinate consideration'."

Professional Liability Insurance

Council was advised that the professional liability insurance situation seems to be growing steadily worse over the Nation. Physicians in several states are having a very difficult time obtaining coverage and premium rates in some instances are astronomical.

As a result of these developments, some members had requested that thought be given to the feasibility of having The Medical Society of Virginia develop and finance its own professional liability program. Information received by the State office thus far has indicated that such a course of action might well be dangerous and inadvisable. It was agreed, however, that the Executive Secretary would seek to learn what degree of success other states, if any, had realized in this regard.

There being no further business, the meeting was adjourned.

Robert I. Howard
Secretary

APPROVED:

F. Ashton Carmines, M.D.
President

Woman's Auxiliary . . . .

Meet the New President

After serving the Woman's Auxiliary to The Medical Society of Virginia capably as president-elect this past year, Mrs. Joseph Straughan, May, has been installed as the forty-second president for 1969-1970. She has visited fifteen of our twenty-four county auxiliaries to become better acquainted and increase understanding among physicians' wives and stimulate interest in auxiliary activities.

Mrs. Straughan attended state medical conventions in New York and Tennessee, the Fall Conference for Presidents and Presidents-elect in Chicago sponsored by the Woman's Auxiliary to the American Medical Association and the American Medical Convention in New York City last July serving as chairman of Virginia delegates at the Auxiliary meeting. The 1969 Fall Conference of Presidents and Presidents-elect, October 5-8, at the Drake Hotel in Chicago was attended by Mrs. Straughan and president-elect Mrs. Reuben F. Simms of Richmond. This is only the beginning to demonstrate the interest and thought which May has given to her role as president.

May radiates a particular warmth and charm combined with the special gift of putting those with whom she comes in contact readily at ease. She brings to the office of president her many talents and experience. May was president of the Woman's Auxiliary to the Logan County Medical Society in the early years of their marriage. She is an active member of the Woman's Auxiliary to the Wise County Medical Society having served as their president. May has been State international health chairman for three years.

Born in McDowell County, West Virginia, the daughter of Mr. and Mrs. Arthur J. Bartlett of Huntington, West Virginia, May has always been interested in people and actively participated in curricular and extra-curricular activities in her school. She was president of the local sorority at Farmville and active in the Drama Club, primarily as a prop pusher according to May. Miss Wheeler, professor and sponsor of the club observed then that May had "executive ability." It seems these words were almost a prophetic pronouncement of things to come. May graduated from Logan High School; subsequently attended State Teachers College presently known as Longwood located near Farmville, and graduated with an A.B. degree in English from West Virginia University. She joined Alpha Phi Sigma, an honorary sorority for freshman and sophomores and Mu Omega at Southern Teachers College, and Pi Beta Phi at West Virginia University.

May met Joseph Straughan at the home of friends in March 1948. Following a whirlwind courtship the couple married and lived in Logan County for four years where her husband was engaged in general practice. The next three years were spent in New York City where Dr. Straughan was taking a residency in radiology at Roosevelt Hospital. They set their roots down in Wise in 1957. May has always felt a certain kinship with Virginia since many of her maternal relatives resided in neighboring Tazewell County.

May has been active in the community Parent-Teacher Association in which she served as secretary and also the American Association of University Women, Town and Country Garden Club and involved in the Wise County Study Club. The study club considers current events, art, literature, history and many other topics in their programs.

Frances, a junior in high school, is concentrating on academic studies with college

preparation foremost in her mind this year, although current fashions and music remain keen interests. Thomas, a fourth grader, has ideas of his own and the wide open spaces seem a great deal more appealing seen on the wheels of a tractor or a trailer. Anne, a full fledged second grader, is enthusiastic about her piano studies and Brownie scouting. Anne is convinced there could be no better "homeroom mother" than her own and promptly volunteered her services this year. The family enjoys hiking through the beautiful Wise woods, bird feeding in the winter and swimming in summer. The family readily dons sport apparel suitable for the occasion with no urging.

May is pleased that the theme is on health with an accent on youth and family and stated "I'm pleased that Children and Youth has been made a regular program extension committee by the national auxiliary because in Virginia we need and want to continue the work we began with vigor during the past year."

The Eastern Regional Workshop which is to be held in Washington, D.C., at the Park Sheraton Hotel, October 23-24 will be attended by Virginia delegates Mrs. Reuben Simms of Richmond, president-elect, Mrs. Michael Puzak of Arlington, health careers chairman; Mrs. William J. Reardon of Fairfax, AMAERF chairman; Mrs. Robert Baker of Alexandria, legislation chairman; and Mrs. Robert Nirschl of Arlington, membership delegate.

Mrs. Daniel Anderson has been appointed Eastern Regional chairman of children and youth for the Woman's Auxiliary to the American Medical Association. Anna is a past State president and we are very proud of her appointment. Another feather in our bonnet.

Monthly Report of Bureau of Communicable Disease Control

	Sept. 1969	Sept. 1968	Jan.-Sept. 1969	Jan.-Sept. 1968
Brucellosis	7	8	37	40
Diphtheria	0	0	0	0
Hepatitis	52	57	340	359
Meningitis (Aseptic)	3	17	14	94
Meningococcal Infections	3	4	55	38
Poliomyelitis	0	0	0	0
Rocky Mt. Spotted Fever	22	2	75	40
Rubella	18	5	1632	587
Rubeola	1	9	676	309
Streptococcal Sore Throat and Scarlet Fever	690	842	10875	10556
Tularemia	0	0	4	3
Typhoid	1	0	1	8
Rabies in animals	18	9	327	112
Venereal Disease				
Syphilis	110	130	1048	1267
Gonorrhea	1261	977	9304	7477
Other	6	1	38	11

Editorial . . . .

Your New President



William Grossmann, M.D.

THOSE who have been associated with your new president can assure you that his leadership will be sincere, stimulating, vigorous, and that we are in good hands. He is quite capable of meeting the challenges of this office, which has grown much more strenuous and time-consuming during the past few years.

William Grossmann was born in Chesterfield County, Virginia, April 30, 1910. He attended public schools in Petersburg, graduating from its High School in 1927. His interests and activities were varied there, where in addition to Bill, Billie, and Willie, he became known as "Shakespeare". At V.P.I., where he took his Pre Med, he developed, through his R.O.T.C. training, knowledge which proved invaluable in later years in teaching close-order drill to novice medical officers in a Medical Replacement Training Center during World War II. While in Medical School at the University of Virginia, he survived several episodes "from Vinegar Hill to Rugby Road", despite his size, and found time to use his dramatic talent in directing an outstanding Medical School Show. Despite several scenes not very complimentary to the Faculty, he managed to graduate in 1933.

After medical and surgical internships there, he joined the State Health Department as Epidemiologist, and after a Master's Degree at Johns Hopkins in Public Health, served as director of the Bureau of Communicable Disease until he entered the Army in 1942. Later he transferred to the Air Force in the Middle East and then Europe.

Leaving the service as a Lt. Colonel, Bill went back to the University, finishing a Pediatric Residency there in 1947, then to the private practice of Pediatrics in his home area. After entering practice in Petersburg, he became active in so many things, medical and otherwise, that he found it necessary to take first one partner, Herman Farber, a second, Kirby Hart, and later a third, Jack Drewry. Should Bill Grossmann make us a good president, we shall owe them a vote of thanks.

He has found time to be politically active, serving a term on the Petersburg City Council, then as a director and president of VAMPAC. He has headed many organizations, some of which were: chairman of staff, Petersburg Hospital, chief of staff, Petersburg General Hospital, president of Petersburg Medical Faculty, Fourth District Medical Society, and member of council from the Fourth District. For several years he was president, and later chairman of the Board of Virginia Medical Service Association (now Virginia Blue Shield). He was chairman of the Governor's Advisory Committee on Medicare and at present is chairman of the Virginia Comprehensive Health Planning Council.

Aside from his medical activities, Bill has been president of his Rotary Club, the Virginia AAU, the local Y.M.C.A. and chairman of its capital funds drive. At some point he served on the Board of the Community Fund, the Red Cross, and local Polio Fund. We are told that he did not run aground while he was Commander of Coast Guard Auxiliary 32 in Petersburg.

During his spare time, your president has delved in various hobbies—hunting (not the walking kind), fishing (both fresh water and surf), boating, flying, and Inn-Keeping, among others. Some say he is an accomplished harmonica player, some think he is a humorist, and others have heard him read quite dramatic poetry.

Some of us share with him his pride in his sons, Dr. (Ph.D.) Bill, an aeronautical and mathematical engineer, (Dr. (D.D.S.) Bob, an orthodontist, and Jimmy, an international banker—as well as his grief in the loss of his lovely wife, Virginia—a devoted R.N.

F. J. W., Jr.

The Role of Physician's Aides

A GUEST EDITORIAL by Dr. Martin Donelson Jr., of Danville, entitled the *Physician's Assistant,* appears in this issue of the Virginia Medical Monthly. Many physicians are not aware of this new discipline that is designed to take some of the work load off busy physicians and thus extend additional medical care to areas where aid is most needed.

Twenty-six medical schools are now training physician's assistants. Duke University School of Medicine currently has a two year course. This may be lengthened to four years with a baccalaureate degree. The student body has been drawn largely from medical corpsmen who have served in Vietnam. A recent symposium in Chicago dealt with these trained non-professional health aides. Colonel Robert Bernstein, of the Office of the Army Surgeon General, stated that three medical schools are cooperating with the Army to determine if these assistants can be used in civilian capacities to the same degree as they have in the Army.

Non-professional medical aides with former military corpsmen experience have served satisfactorily for the past 30 years in Federal prisons. However a captive clientele of this type may not be comparable to that found in civilian circles generally. Most of the physician's assistants thus far have continued to work in the hospitals associated with the medical schools in which they were taught. Some are trained for special duties. The Emory University Medical School uses these young men in the intensive care unit. Doutbless other worthwhile activities will be found in addition to those delimited in medical schools. Dr. Donelson's editorial deals with various civilian duties in which these aides may participate.

There also are many questions that must be answered before the role of these physician's assistants can be definitely defined. Just how many duties now traditionally handled by physicians can be turned over to their non-professional assistants? Who will determine the extent of their activities? If a physician goes away for a week-end, will he leave his patients in the care of his assistant?

Some type of state license* will be necessary. It is reported that Duke University is preparing a model license which may be of worth when the need arises. Will a special type of malpractice insurance be needed for these aides or will a blanket policy cover the physician and his assistant?

These and doubtless other questions will arise but they can be solved, for if a real need exists, a solution will be found. Meanwhile Dr. Donelson has done us a service in bringing this to the attention of the medical profession in Virginia.

H. J. W.

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*The State Board of Medical Examiners has not been able to reach a decision as to the licensure of this paramedical group. They feel that to license them is bad but not to license them is also bad. They have sought the advice of the Medical Service Committee. The decision at present is to defer action regarding licensure.

The MCV Nursing Crisis - Postscript

SEVERAL MONTHS AGO an editorial entitled *The MCV and the Nursing Crisis* appeared in the Virginia Medical Monthly. Thus far not a single response of any nature has emanated from Twelfth and Broad Streets. However an article by Beverly Orndorff, *Times-Dispatch* Science writer, appeared on September 5, and threw some light on this subject.

Mr. Orndorff quoted Dewey M. Lovelace, Administrator Assistant at the MCV, as stating "the tide of nurse shortages and bed closings at the Medical College of Virginia Hospital, a tide that swelled to its greatest proportions in early June, has been halted and *perhaps* (italics ours) is beginning to recede gradually". This apparently is based on an increase of about a dozen registered nurses over the all-time low of 245 in June. Also 12 private beds have been reopened and seven more are expected to be reopened by the first of October. This is all to the good but when it is recalled that "more than 100 beds for medical and surgical patients had been closed at the approximately 1,000 bed medical center because of shortage of registered nurses" there is hardly justification for universal rejoicing or dancing in the streets.

The same news item quoted Lovelace as stating "At this time our nursing situation is stabilized" and "The prospects for the near future appear promising". "For one thing," he noted, "a new director of nursing—Miss Rosemary Fritsch, will assume her duties at MCV on Monday. The former director of nursing Mrs. Ceilia D. Blanks, accepted a position in another state late last spring".

We hope Mr. Lovelace's optimism is justified but we will temper our enthusiasm until more than 12 or even 19 beds are reopened in the largest teaching hospital in the State.

H. J. W.

News . . . .

Calendar of Events

Southern Society for Pediatric Research—Annual Meeting—Medical College of Virginia—Richmond—November 21-22, 1969.

American Medical Association—Clinical Convention—Denver—November 30-December 3, 1969.

Ware Residence Program—Medical College of Virginia—Richmond—December 10-12, 1969.

Annual Medical Seminar—Sponsored by University of Virginia School of Medicine—The Homestead—Hot Springs—January 29-31, 1970.

Law Institute on Hospitals and Medicine—Medical College of Virginia—Richmond—February 6, 1970.

Clinical Microbiology Conference and Workshop—University of Virginia School of Medicine—Charlottesville—February 6, 1970.

Alton D. Brasher Postgraduate Course in "Head and Neck Anatomy"—Medical College of Virginia—Richmond—February 17-20, 1970.

Stoneburner Lecture Series—Medical College of Virginia—Richmond—February 19-20, 1970.

Student Cancer Day—University of Virginia School of Medicine—Charlottesville—March 6, 1970.

Annual Postgraduate Program—Sponsored by Medical Staff of Roanoke Memorial Hospital—Roanoke—March 19-20, 1970.

Spring Series of Thursday Afternoon Lectures—University of Virginia School of Medicine—Charlottesville—March 5—April 23, 1970.

Child Psychiatry Spring Forum—Medical College of Virginia—Richmond—May 29, 1970.

* * * * * * * *

The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following new members were received into The Medical Society of Virginia during the month of September:

Roland L. F. Breton, M.D., Silver Spring, Maryland
Raymond Franklin Cosentino, M.D., Alexandria
Leoncio Antonio Garcia, M.D., Charlottesville
John Henry Gilligan, Jr., M.D., Alexandria
Harry Griffin Hager, Jr., M.D., Williamsburg
Louis Paul Kirschner, M.D., Bethesda, Maryland
Ivan J. Lipman, M.D., Richmond
Raymond Eugene Matson, M.D., Fredericksburg
Vacit Y. Ozberkmen, M.D., Fairfax

Frank Spencer Royal, M.D., Richmond
Maurice Schiller, M.D., Alexandria
Donald Edward Seim, M.D., Virginia Beach
Eugene Octave Sykes Stevenson, M.D., Springfield
Stephen Lee Thompson, M.D., Rustburg
Yuksel Uzer, M.D., Springfield
Garland Joseph Wampler, M.D., Mt. Jackson
James Latham White, M.D., Manassas

Norfolk County Medical Society.

New officers for this Society are: President, Dr. Robert B. Gahagan; president-elect, Dr. Bernard Lidman; vice-president, Dr. Daniel N. Anderson; treasurer, Dr. Maurice M. Miller; and secretary, Dr. Claude A. Smith (re-elected).

Lynchburg Academy of Medicine.

New officers for the Academy, effective September 1st, are Dr. R. Vincent Crowder, president, and Dr. Robert L. Glenn, secretary-treasurer.

Dr. A. Ray Dawson.

Richmond, has become director of rehabilitation services for Virginia's mental hospitals. He recently retired as chairman of the department of physical medicine and rehabilitation of the Medical College of Virginia.

Dr. George A. Reynolds

Has been elected Mayor of Bowling Green to serve an unexpired term of one year. He had been vice mayor.

Dr. Robert E. Parmenter

Has been appointed Health Director for the Appomattox, Buckingham, Cumberland, Prince Edward Health District. He assumed his duties on September 16th. Dr. Parmenter retired as a Lieutenant Colonel in the U. S. Army Medical Corps in December 1967.

Gill Memorial Eye, Ear, Nose and Throat Hospital and Clinic,

Roanoke, are having their forty-second annual Spring Congress April 12-15, 1970, at the Hotel Roanoke. Ronald B. Harris, M.D., will be chairman of the opthalmological section and Houston L. Bell, M.D., of the otolaryngological section. Guest speakers will be Merrill Grayson, M.D., William H. Havener, M.D., Charles D. Kelman, M.D., Harvey Lincoff, M.D., Richard J. Bellucci, M.D., Miles D. Lewis, Jr., M.D., Daniel Miller, M.D. and Frank N. Ritter, M.D.

For further information, write to Mr. Charles T. Akers, Jr., P. O. Box 1789, Roanoke, Virginia 23008.

For Sale.

One Picker 300 MA-125 KVP Generator, 1/30 second timer Centurian 11 Radiographic-Fluoroscopic table with 8 x 10—10 x 12 spot film device rotating anode tubes floor to ceiling tube stand. Price $2,000.00.

One Picker 200 MA-100 KVJ Generator, 1/20 second timer Centurian 11 Radiographic-Fluoroscopic 8 x 10—10 x 12 spot film device rotating anode tubes floor mounted tube stand. Price $1,000.00.

Contact Sigmund Newman, M.D., 1220 East West Highway, Apt. 522, Silver Spring, Maryland 20910. (*Adv.*)

Wanted.

One or two general practitioners, service obligation fulfilled, to join established GP group. Local hospital. Population 20,000. 23 miles from Richmond, Virginia. Drs. Moore and Miller, 815 West Poythress Street, Hopewell, Virginia 23860. Telephone 458-8557. (*Adv.*)

Wanted.

Internist, board qualified or certified. Join board certified Internist, East Tennessee town of approximately 50,000. Guaranteed salary and increasing percentage to full partnership. Accredited schools, local colleges and near university. Write to #170, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituary . . . .

Dr. James Lawson Cabaniss,

Roanoke, died September 5, at the age of sixty-five. He was a graduate of the School of Medicine, University of Virginia, in 1932. Dr. Cabaniss was an eye, ear, nose and throat specialist and had practiced in Roanoke since 1936. He was a retired Navy commander and had served as president of Ferrum Junior College Alumni Association and was founder of the B. M. Beckham Scholarship Fund at that school. Dr. Cabaniss served as President of the Roanoke Academy of Medicine in 1961 and had been a member of The Medical Society of Virginia for thirty-three years.

His wife, two sisters and three brothers survive him.

Dr. George Dennis Vaughan,

Richmond, died September 17th, following a heart attack. He was fifty-seven years of age and a graduate of the Medical College of Virginia in 1939. Dr. Vaughan had been a member of the staff of the Medical College of Virginia since the late 1940's. He served as a lieutenant commander on a Navy hospital ship during World War II. Dr. Vaughan was president of the Piedmont Proctologic Society and a member of several other medical organizations. He had been a member of The Medical Society of Virginia since 1946.

His wife and three sons survive him.

Dr. Charles Welby Dorsey,

Hopewell, died August 3, at the age of seventy. He was a graduate of Johns Hopkins University Medical School in 1925 and had practiced in Galax and Roanoke. He had moved to Hopewell six years ago and had recently retired because of ill health. Dr. Dorsey was a member of The Medical Society of Virginia, having joined in 1938.

His wife, a daughter, a son, a stepdaughter and a stepson survive him.

Dr. Ulus Walter Massie,

Roanoke, died June 26. He was seventy-two years of age and a graduate of the Medical College of Virginia in 1930. Dr. Massie had practiced in Roanoke for thirty-five years and he specialized in eye, ear, nose and throat. He was past chancellor of the Knights of Pythias and a Mason. Dr. Massie had been a member of The Medical Society of Virginia for twenty-seven years.

His wife, a daughter and a son survive him.

Dr. Broaddus.

Dr. Carl Broaddus, a past president of the Midtidewater Medical Society died at his "Fleetwood" near Newtown on July 2, 1969.

Dr. Broaddus was a graduate in Medicine of the Medical College of Virginia in 1917. He enlisted in service soon after graduation and served through the First World War, and after the war he was detached from the navy and commissioned a major in the Dominican Republic's Army.

In 1941, he was assigned to the Forces in the Pacific. He saw service in the campaigns at Attu, Kiska, Kwajalein, and Guam and in all spent 44 months in the Pacific theatre.

He was made Fleet Surgeon in the Korean War and in all flew 100,000 miles in performing his duties. He was the first Flag Officer to hold this post.

He was promoted to Vice Admiral a short time before he was retired.

On his return to Virginia, he was appointed the first health officer to the new Health Department unit of King & Queen, Essex, Middlesex in 1952, and 1956 the counties of Mathews and Gloucester were added to his district, which he served until his retirement in 1964.

And whereas Dr. Broaddus was a loyal and respected member of the Midtidewater Medical Society

Therefore be it resolved That a copy of this memorial be spread on the minutes of the Society, and a copy be sent to his family and a copy be sent to the Virginia Medical Monthly.

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Hunter H. McGuire, M.D.

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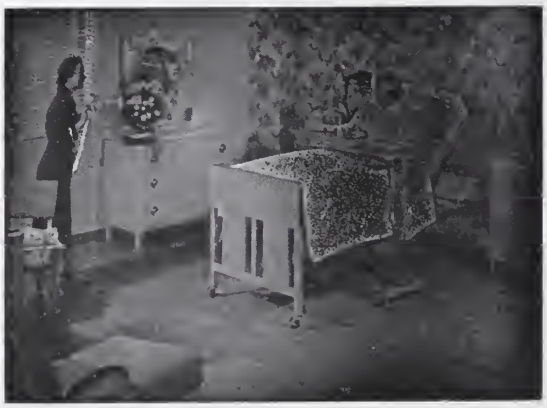
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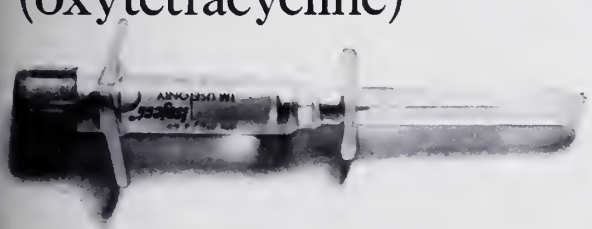
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Note: With oxytetracycline, phototoxicity is not believed to occur and photoallergy is very rare.

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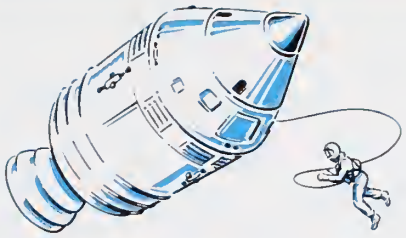
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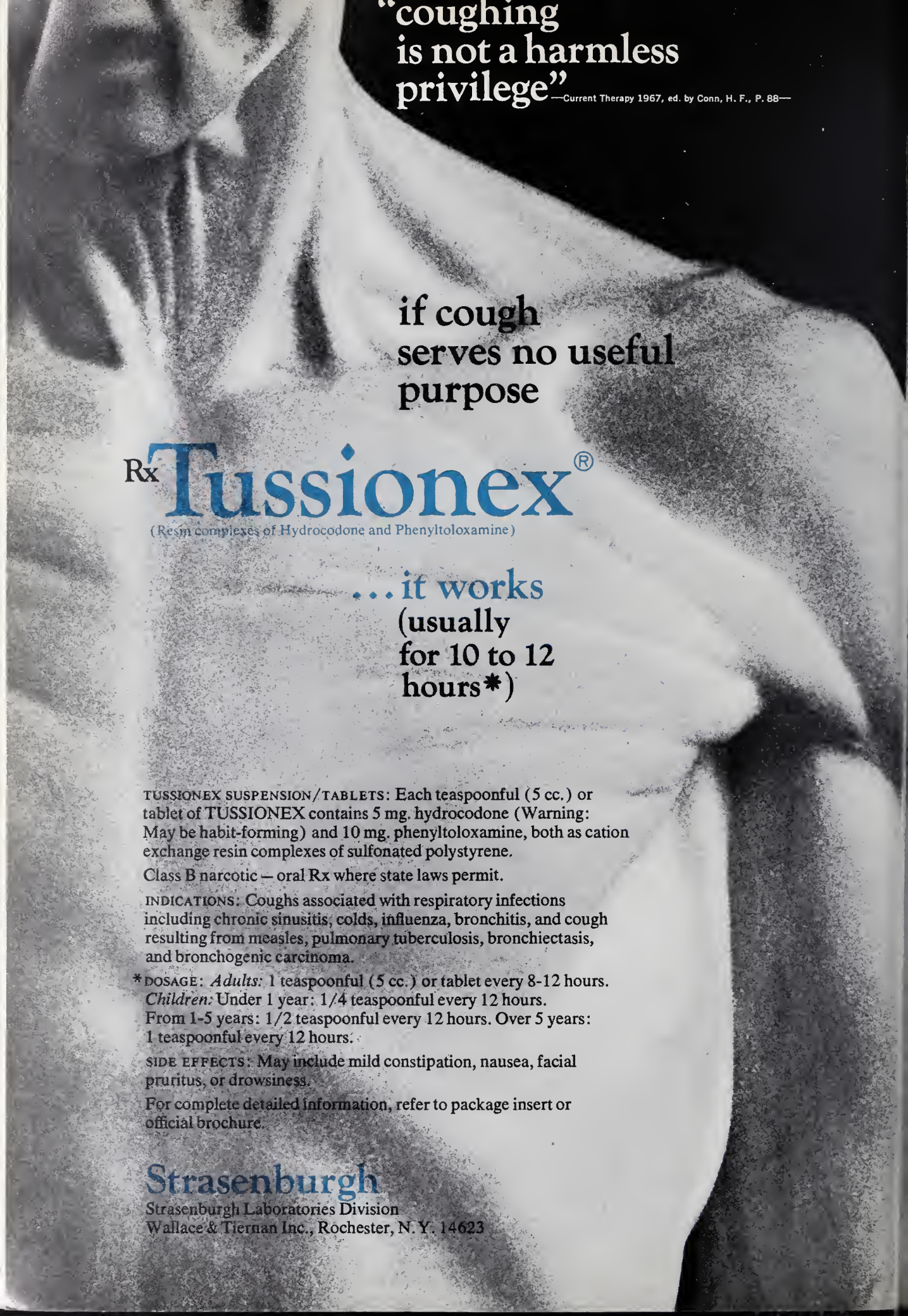
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For complete detailed information, refer to package insert or official brochure.

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in bursitis, synovitis, tenosynovitis
and acute fibrositis.

Total treatment time: 7 days
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Sterazolidin is valuable in the treatment of acute rheumatic conditions so often refractory to routine therapy. However, it is a potent drug, not a simple analgesic. Therefore, Sterazolidin should never be administered casually. For complete details on dosage, adverse reactions, contraindications and precautions, please see the following two pages.

Sterazolidin®

Each capsule contains:

Butazolidin®, brand of phenylbutazone	**50 mg.**
prednisone	**1.25 mg.**
dried aluminum hydroxide gel	**100 mg.**
magnesium trisilicate	**150 mg.**

Antiarthritic
Anti-inflammatory

Capsules

Important Note Butazolidin, brand of phenylbutazone, and prednisone, the active ingredients of Sterazolidin, are both potent drugs; the pharmacologic action of each should be borne in mind when Sterazolidin is prescribed. Sterazolidin combines anti-inflammatory, analgesic, antipyretic, and antiallergic properties and cannot be considered a simple analgesic and should never be administered casually. The usual warnings, precautions and contraindications associated with Butazolidin, brand of phenylbutazone, therapy and steroids apply to Sterazolidin.

Indications: *Chronic treatment of:* rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis; and also treatment of acute rheumatic conditions such as bursitis, synovitis, tenosynovitis, various forms of acute fibrositis, and acute gouty arthritis.

Contraindications

Usually absolute: active, questionably healed or suspected tuberculosis, herpes simplex ophthalmia, acute psychoses or severe psychoneuroses, history of blood dyscrasia, the frankly senile patient, and active peptic ulcer.

Relative: exanthematous diseases, particularly varicella and fungal diseases (for other viral diseases, the physician must weigh the possible undesirable effects against anticipated clinical improvement), diverticulitis, recovery phase after gastrointestinal surgery, any condition complicated by cardiovascular disease, renal insufficiency, moderate or severe diabetes mellitus, thrombophlebitis, osteoporosis, convulsive disorders, thyroid disease, history of drug allergy, history of peptic ulcer, hypertension, the elderly patient, psychotic tendencies, pregnancy, except in severe disease (the safety of Sterazolidin in pregnancy has not been established), edema, and hepatic damage.

Its use in conjunction with other potent chemotherapeutic agents may greatly increase the possibility of toxic reaction, and this practice is, therefore, inadvisable. Large doses are contraindicated in patients with glaucoma.

Warning Coumarin-type anticoagulants depress prothrombin activity. This is accentuated in some cases when Butazolidin, brand of phenylbutazone, is simultaneously employed in treatment; occasional instances of severe bleeding have been reported. Patients receiving coumarin-type anticoaguiants should be very carefully followed for evidence of excessive increase of prothrombin time when Sterazoiidin is added to this regimen. Anticoaguiant therapy can then be properly adjusted, if necessary. When prescribed alone, Sterazoiidin has not been shown to influence prothrombin activity. Persistent or severe dyspepsia may be indicative of peptic ulceration. In these instances, upper gastrointestinal x-ray diagnostic tests should be performed if the drug is continued. Pyrazole compounds, such as phenylbutazone, may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Patients receiving such concomitant therapy, therefore, should be carefully observed for this effect.

Precautions and Adverse Reactions *Gluco-Corticoid Activity:* In some diabetic patients on prednisone, the insulin requirements may be increased. It is advisable to observe diabetic patients carefully during the treatment period. Since gluco-corticoids may unmask latent diabetes, all patients should be observed for this effect.

Electrolytes: Many patients receiving prednisone in average amounts show some loss of sodium, with little or no loss of potassium. With continued high dosage, however, sodium retention and potassium loss have been observed. Butazolidin, brand of phenylbutazone, has a definite tendency to produce sodium retention and hence, edema, particularly in the older age group. Elderly patients or those with hypertension, cardiac defect or renal dysfunction should therefore use Sterazolidin with special caution and the drug should be discontinued if edema develops. Development of edema may be prevented or minimized by withholding salt from the diet. Sodium retention may be counteracted with oral diuretics.

Nitrogen: With the recommended dosage of Sterazolidin, the possibility of nitrogen loss i remote. However, it is recommended that patients receive adequate protein in their diet. Osteoporosis or spontaneous fractures may occur with prolonged use of prednisone.

Gastrointestinal Tract: Clinical and animal studies do not indicate that the ulcerogenic activity of prednisone or Butazolidin, brand c phenylbutazone, is enhanced in the combina tion. To overcome gastrointestinal discomfo and occasional eructation in sensitive patien the medication is best taken at mealtime or with milk; Sterazolidin contains antacid com ponents to minimize the incidence of gastric complaints. All patients should be warned to report immediately the occurrence of black c tarry stools. The development of anemia sho immediately suggest gastrointestinal bleedir

Blood Elements: Patients receiving prednisc exhibit an eosinophil response similar to tha seen with other steroids. During the initial weeks of treatment, Butazolidin, brand of phenylbutazone, usually causes some degre of hemodilution and resultant lowering of thr red cell count. This phenomenon does not represent a true anemia and is not indicative of intolerance, but must be distinguished fro true anemia secondary to gastrointestinal bleeding or other causes. With the extensive use of Butazolidin, brand of phenylbutazone rare cases of agranulocytosis have occurrec (ratio less than 1 per 200,000 patients). It should also be noted that agranulocytosis c occur suddenly in spite of regular, repeated normal white counts. Several cases of leukemia and leukemoid reactions have been reported with Butazolidin, brand of phenylbutazone, therapy. Although these reactions cannot be definitely attributed to this drug, t possibility of a causal relationship cannot b excluded. It should also be recognized that arthritic-type pains are sometimes the prese ing symptom of leukemia. Accordingly, all patients receiving Sterazolidin should have

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outine periodic blood counts before and luring therapy. Any unexpected, significant change in the total white count, relative decrease in granulocytes, or appearance of mmature forms should be regarded as a signal or immediate cessation of therapy and institution of appropriate countermeasures. Thrombocytopenic purpura and aplastic anemia must also be considered possible side effects of herapy with Butazolidin, brand of phenylbutazone.

Stress: Surgery: Prolonged use of prednisone may cause a potentially critical degree of adrenocortical insufficiency which may persist even after cessation of prednisone therapy. Therefore, if a patient is subjected to significant stress, such as surgery or trauma, either during Sterazolidin therapy or within one year after cessation of therapy, it is advisable to administer additional steroid and/or ACTH for he duration of the stress. Delayed wound healing may also occur in patients on prolonged therapy.

Infections: High or prolonged doses of prednisone interfere with the usual immune mechanisms against bacterial and viral infections and may promote their dissemination. In eneral, steroid treatment should not be given n the presence of infections unless appropriate antibiotic therapy is instituted at the same me. Systemic and localized infection complications during hormone therapy have been observed, including fulminating pneumonia, uberculosis, moniliasis and aspergillosis. hould intercurrent infection develop, indicated antibiotic therapy must be initiated romptly. Every patient who is to receive terazolidin for any length of time should be horoughly examined, including chest x-ray, or the presence of pulmonary or extrapulmonary tuberculosis.

ormonal Imbalance: Gluco-corticoids, in prolonged dosage, may cause manifestations of ypercortisonism or Cushing's syndrome, such s: moonface, abnormal fat deposits, mental isturbances, muscle weakness and atrophy, utaneous striae, acne, ecchymoses, hirsutism, enstrual disturbances, edema, osteoporosis nd spontaneous fractures, and hypertension. lso, by suppressing adrenocortical function, hronic prednisone therapy may cause some egree of atrophy of the adrenal glands. Therere, if Sterazolidin is to be discontinued, the eroid dosage should be tapered off gradually. In addition, it may be advisable to stimulate the adrenal glands with ACTH. Prednisone induces a prompt decrease in the urinary 17-ketosteroids. Pretreatment levels are usually regained within 7 to 14 days after cessation of therapy. Under conditions of long-term administration, a small percentage of patients on phenylbutazone may develop varying degrees of reversible thyroid hyperplasia.

Allergic Response: Development of drug rash should alert the physician to promptly discontinue the drug. The presence of prednisone in Sterazolidin may reduce the degree of allergic response; nevertheless, the same cautious attitude must be preserved with Sterazolidin as with Butazolidin, brand of phenylbutazone, if allergic manifestations occur. Other adverse reactions that have been observed with glucocorticoid therapy include: excessive appetite and weight gain, hyperidrosis, pigmentation, dry,scaly skin, thinning scalp hair, tachycardia, thrombophlebitis, headache, neuropathy (including paresthesias and neuritis), diffuse vasculitis similar to periarteritis nodosa, subcapsular cataracts, impaired renal function, lupus erythematosus-like changes, convulsions, insomnia, abdominal distention, aseptic necrosis of the femoral head, acute pancreatitis and ulcerative esophagitis.

Miscellaneous: Stomatitis and, rarely, salivary gland enlargement occasionally require the interruption of treatment with Butazolidin, brand of phenylbutazone. Adoption of a lower dosage schedule and the institution of strict oral hygiene sometimes prevent recurrence of lesions. The infrequent occurrence of such subjective sensations as vertigo or languor during therapy with Butazolidin, brand of phenylbutazone, is seldom a serious or significant complication. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis and jaundice, hypersensitivity angiitis, pericarditis and several cases of anura and hematuria. Patients should be carefully evaluated before treatment is started and those receiving Sterazolidin must remain under close medical supervision to guard against undesirable reactions such as those described. They should be instructed to report immediately the occurrence of fever, sore throat, lesions in the mouth, or black or tarry stools. It is recommended that periodic examinations of the patient include:

1. Verbal and physical examination, including blood pressure and appraisal of the cardiovascular, digestive and skeletal systems, for indications of toxic reaction.
2. Complete blood count (at weekly intervals during the first month), urinalysis, x-ray and electrolyte studies, as indicated.
3. Check of patient's weight to detect significant water retention.

Dosage Dosage should be individualized. The following general rules should be observed:

In acute therapy, dosage *should not exceed* 12 capsules on the first day and 6 to 8 capsules on succeeding days. Treatment for more than 7 days is rarely necessary. When therapy extends beyond one week, dosage should not exceed 6 capsules a day.

In chronic therapy, dosage *should not exceed* 6 capsules a day and should be tapered off gradually to establish the minimum maintenance level at which the patient still feels reasonably comfortable. A trial period of one week of therapy is considered adequate to determine the therapeutic effect of the drug. In the absence of a favorable response, therapy should be discontinued.

When switching from chronic high steroid therapy to Sterazolidin, the importance of gradual reduction of steroid dosage cannot be overemphasized. It should be kept in mind that the steroid content of 8 capsules of Sterazolidin will replace 10 mg. of prednisone (or its equivalent in related steroids).

Clinical experience indicates that most patients with rheumatoid arthritis may eventually be maintained on 3 to 6 capsules of Sterazolidin a day. It is advisable to administer the total daily requirement in divided doses.

Availabillty Sterazolidin: Light blue and orange capsules, in bottles of 100 and 1000.
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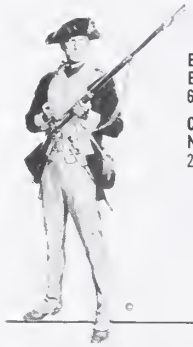
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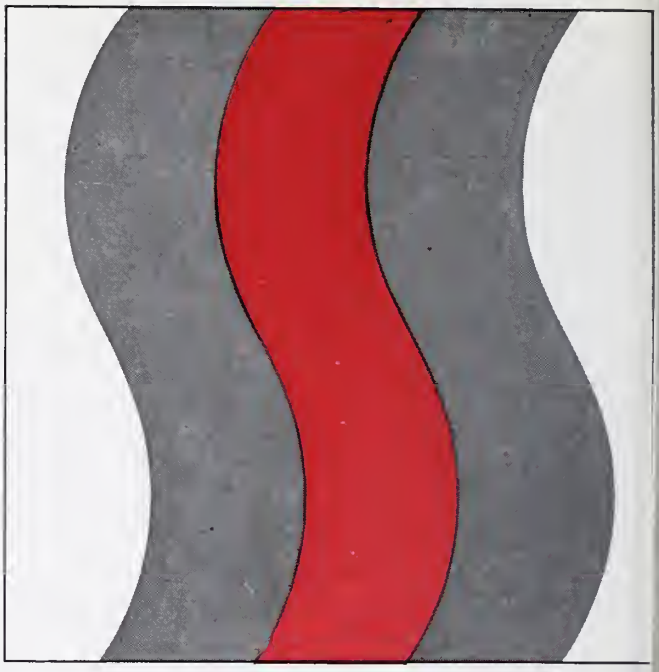
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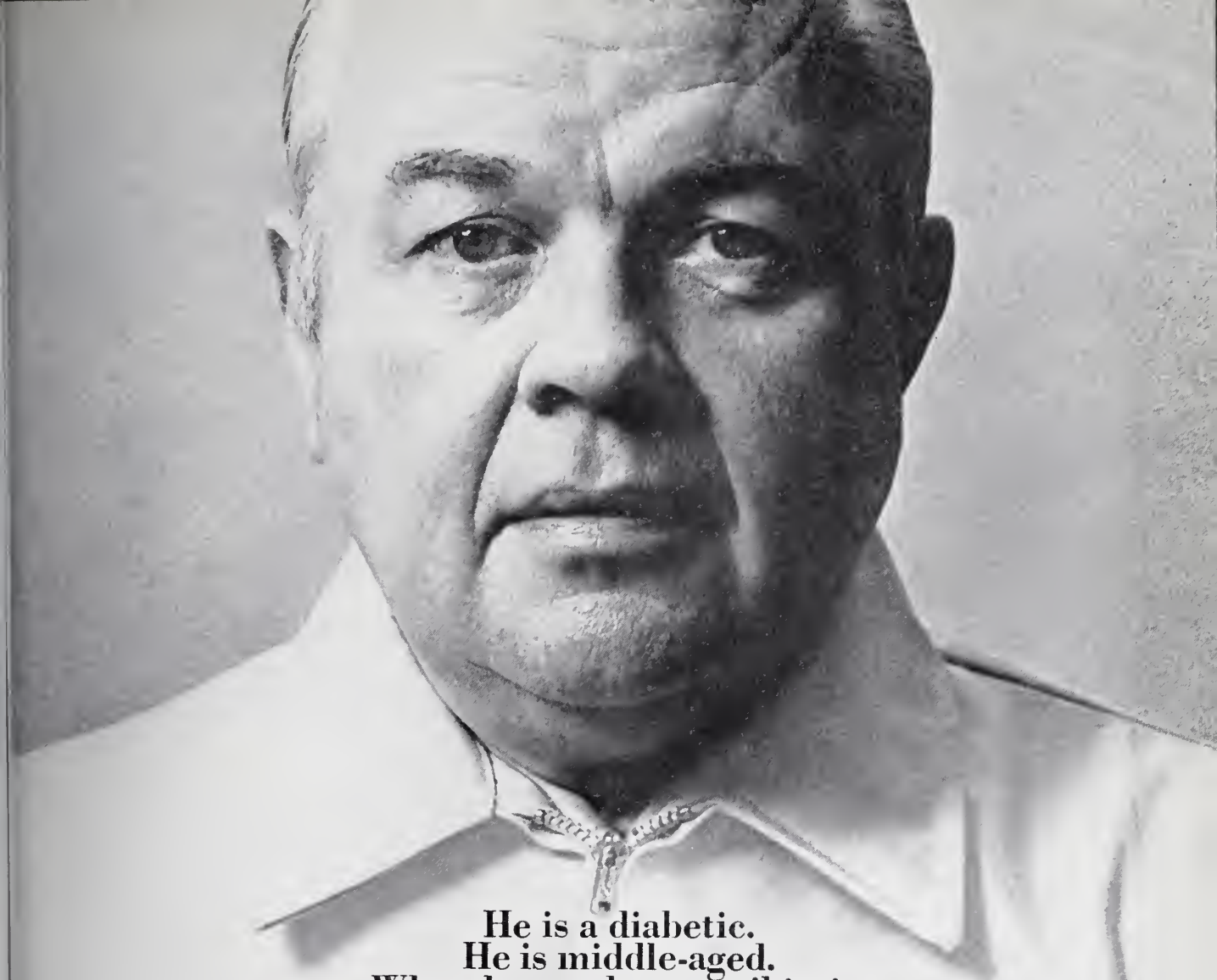
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He is middle-aged.
When he needs an antibiotic
he may be a candidate for

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Demethylchlortetracycline HCl 300 mg and Nystatin 500,000 units CAPSULE-SHAPED TABLETS Lederle

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Warning: In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated, and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of skin discomfort. Necessary subsequent courses of treatment with tetracyclines should be carefully observed.

Precautions: Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment.

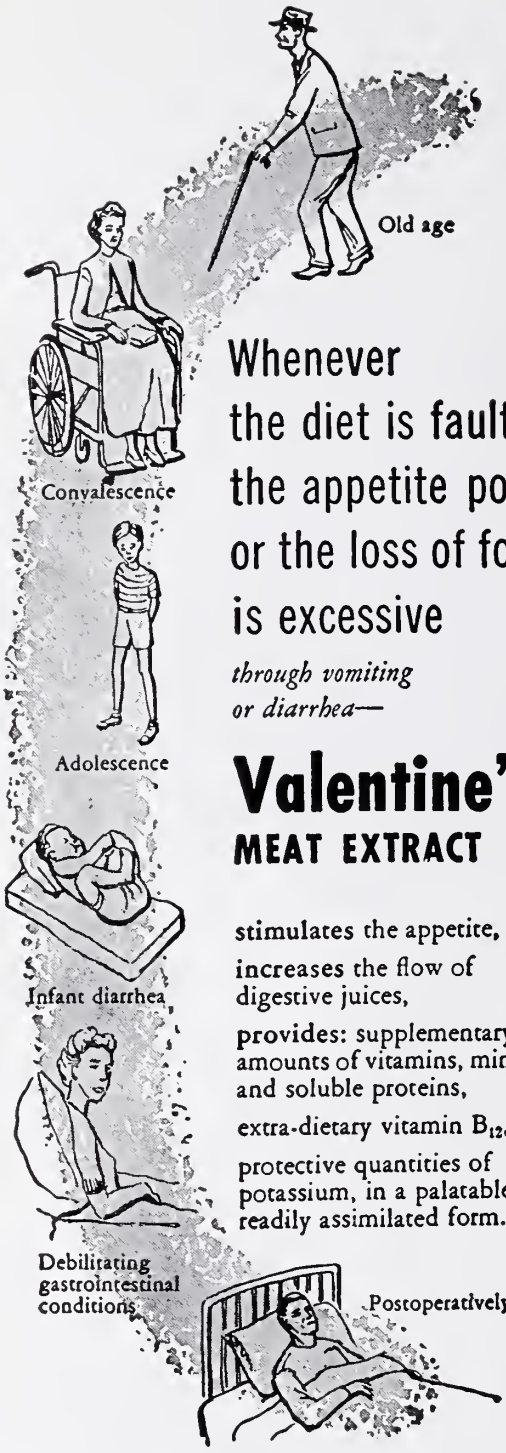
Side Effects: Gastrointestinal system—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes; a rare case of exfoliative dermatitis has been reported. Photosensitivity; onycholysis and discoloration of the nails (rare). Kidney—rise in BUN, apparently dose related. Transient increase in urinary output, sometimes accompanied by thirst (rare). Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. Teeth—dental staining (yellow-brown) in children of mothers given this drug during the latter half of pregnancy, and in children given the drug during the neonatal period, infancy and early childhood. Enamel hypoplasia has been seen in a few children. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Demethylchlortetracycline may form a stable calcium complex in any bone-forming tissue with no serious harmful effects reported thus far in humans.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products. Treatment of streptococcal infections should continue for 10 days, even though symptoms have subsided.

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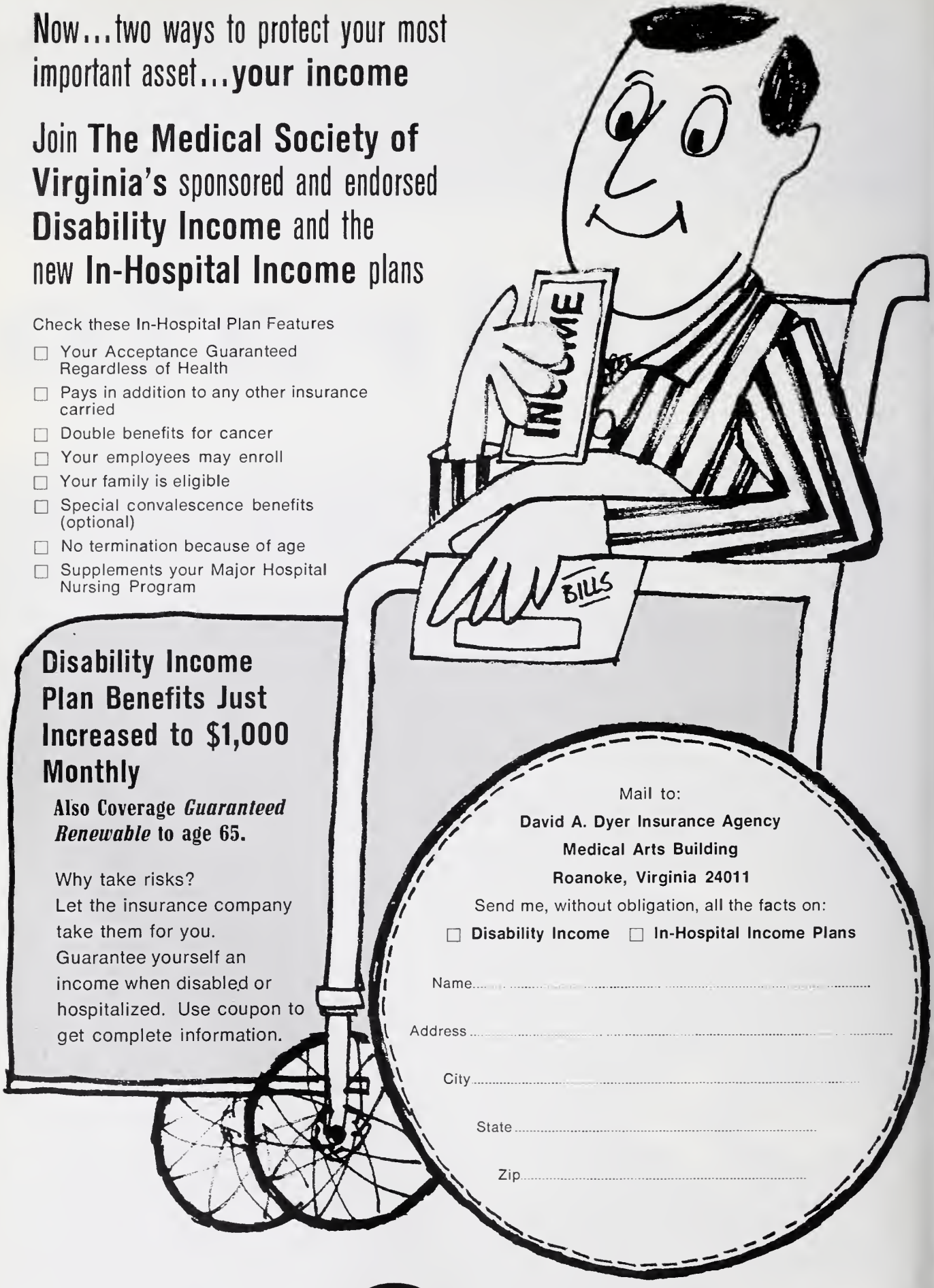
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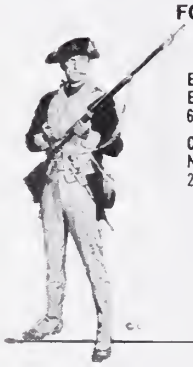
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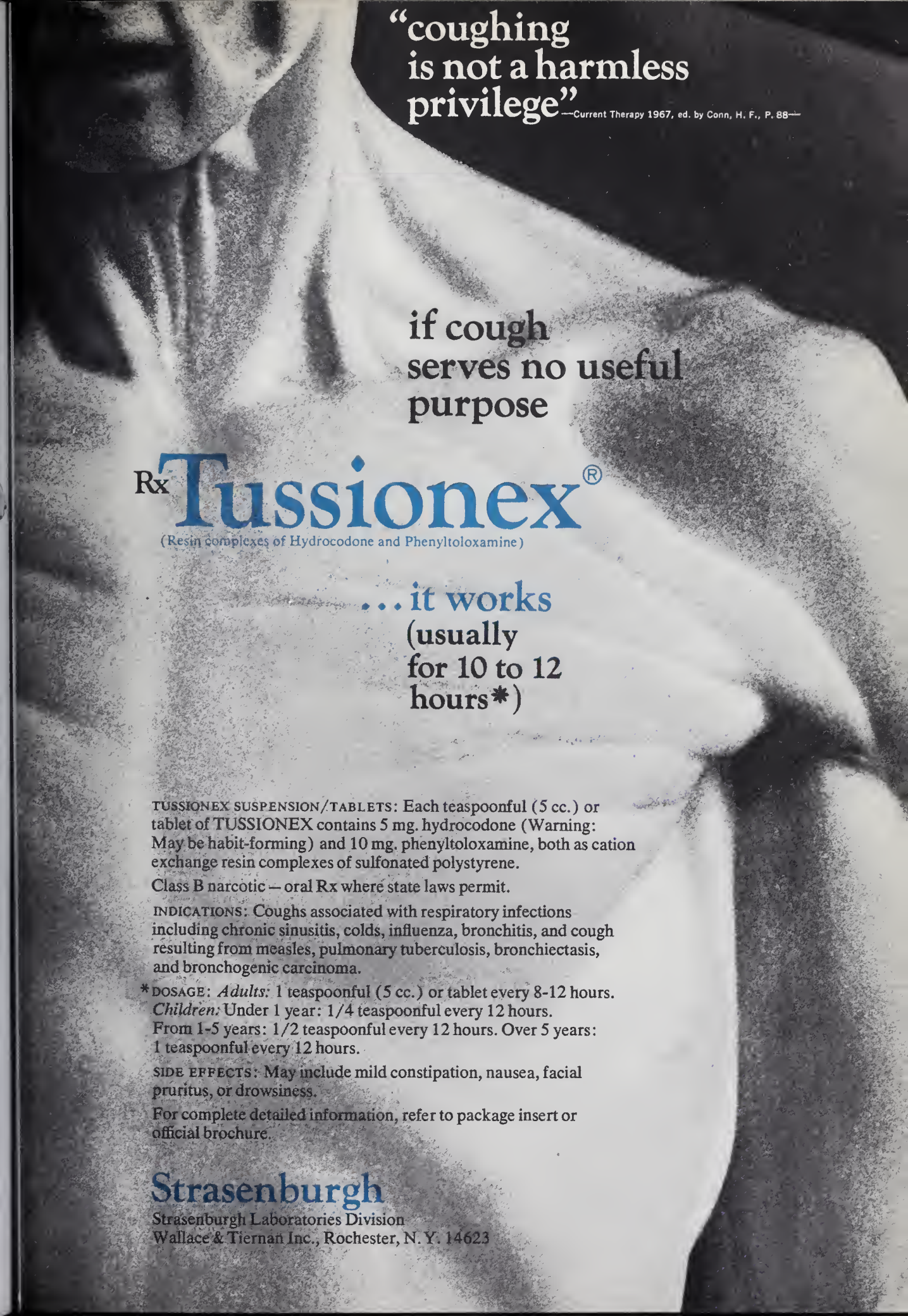
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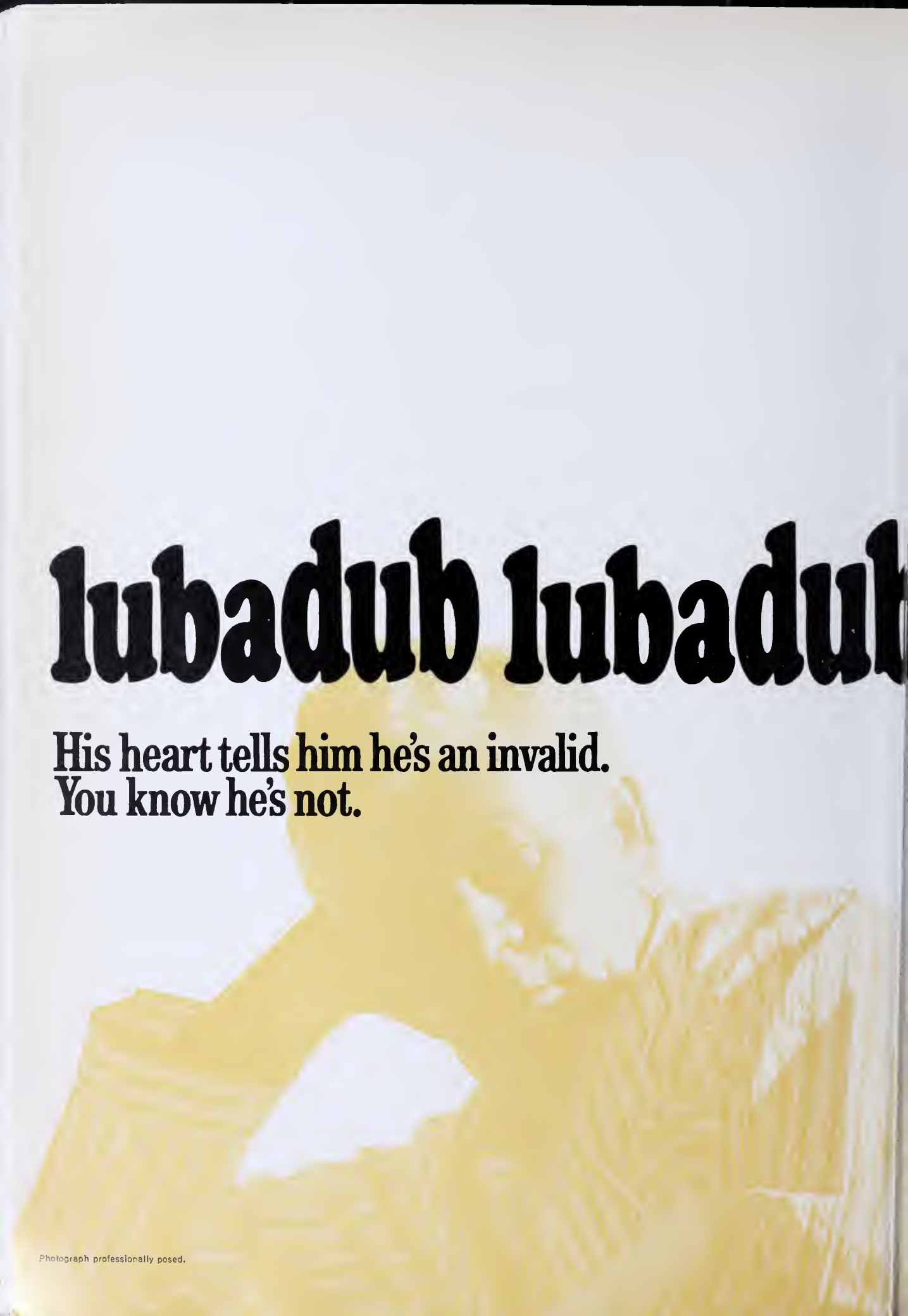
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His heart tells him he's an invalid.
You know he's not.



Photograph professionally posed.

Contraindications: History of sensitivity to meprobamate.

Important Precautions: Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use has been reported to result in dependence or habituation in susceptible persons, as alcoholics, ex-addicts, and other severe psychoneurotics. After prolonged excessive dosage, reduce dosage gradually to avoid possibly severe withdrawal reactions. Abrupt discontinuance of excessive doses has sometimes resulted in epileptiform seizures.

Warn patients of possible reduced alcohol tolerance, with resultant slowing of reaction time and impairment of judgment and coordination.

Reduce dose if drowsiness, ataxia or visual disturbance occurs; if persistent, patients should not operate vehicles or dangerous machinery.

Side Effects include drowsiness, usually transient; if persistent and associated with ataxia, usually responds to dose reduction; occasionally concomitant CNS stimulants (amphetamine, mephentermine sulfate) are desirable. Allergic or idiosyncratic reactions are rare, but such reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Previous history of allergy may or may not be related to incidence of reactions. Mild reactions are characterized by itchy urticarial or erythematous maculopapular rash, generalized or confined to groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema and fever have been reported. One fatal case of bullous dermatitis following intermittent use of meprobamate with prednisolone has been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically as with epinephrine, antihistamine and possibly hydrocortisone. Aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis and hemolytic anemia have occurred rarely, almost always in presence of known toxic agents. A few cases of leukopenia usually transient, have been reported on continuous administration.

Meprobamate may sometimes precipitate grand mal attacks in patients susceptible to both grand and petit mal. Extremely large doses can produce rhythmic fast activity in the cortical pattern. Impairment of accommodation and visual acuity has been reported rarely. After excessive dosage for weeks or months, withdraw gradually (1 or 2 weeks) to avoid recurrence of pretreatment symptoms (insomnia, severe anxiety, anorexia). Abrupt discontinuance of excessive doses has sometimes resulted in vomiting, ataxia, tremors, muscle twitching and epileptiform seizures. Prescribe very cautiously and in small amounts for patients with suicidal tendencies. Suicidal attempts have resulted in coma, shock, vasomotor and respiratory collapse and anuria. Excessive doses have resulted in prompt sleep; reduction of blood pressure, pulse and respiratory rates to basal levels; and occasionally hyperventilation. Treat with immediate gastric lavage and appropriate symptomatic therapy. (CNS stimulants and pressor amines as indicated.) Doses above 2400 mg./day are not recommended.

Composition: Tablets, 200 mg. and 400 mg. meprobamate. Coated Tablets, WYSEALS® EQUANIL (meprobamate) 400 mg. (All tablets also available in REDIPAK® [strip pack], Wyeth.) Continuous-Release Capsules, EQUANIL L-A (meprobamate) 400 mg.

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Anxiety is expected in the cardiovascular patient. A little may even be desirable.

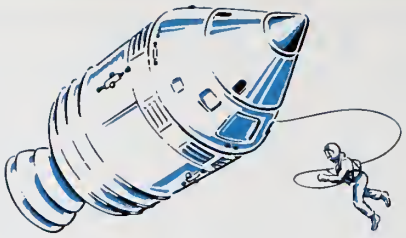
But when anxiety is exaggerated . . . when it interferes with sleep . . . when it aggravates cardiovascular symptoms, your help may be needed.

Naturally, you'll want to reassure the patient.

And perhaps prescribe Equanil (meprobamate) as adjunctive therapy. It helps relieve anxiety and tension specifically, yet gently.

Almost 15 years' use has shown that Equanil is usually well tolerated as well as effective. Side effects are generally limited to transient drowsiness; serious, therapy-interrupting side effects are rare.

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Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

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2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

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Sterazolidin®

50 mg. phenylbutazone
1.25 mg. prednisone
100 mg. dried aluminum hydroxide gel
150 mg. magnesium trisilicate

Prompt anti-inflammatory action for...
relieving pain and stiffness
reducing tenderness and swelling
restoring joint movement
in bursitis, synovitis, tenosynovitis
and acute fibrositis.

Total treatment time: 7 days
Usual dosage: 2 capsules t.i.d.

Sterazolidin is valuable in the treatment of acute rheumatic conditions so often refractory to routine therapy. However, it is a potent drug, not a simple analgesic. Therefore, Sterazolidin should never be administered casually. For complete details on dosage, adverse reactions, contraindications and precautions, please see the following two pages.

Sterazolidin®

Each capsule contains:

Butazolidin®, brand of phenylbutazone	**50 mg.**
prednisone	**1.25 mg.**
dried aluminum hydroxide gel	**100 mg.**
magnesium trisilicate	**150 mg.**

Antiarthritic
Anti-Inflammatory

Capsules

Important Note Butazolidin, brand of phenylbutazone, and prednisone, the active ingredients of Sterazolidin, are both potent drugs; the pharmacologic action of each should be borne in mind when Sterazolidin is prescribed. Sterazolidin combines anti-inflammatory, analgesic, antipyretic, and antiallergic properties and cannot be considered a simple analgesic and should never be administered casually. The usual warnings, precautions and contraindications associated with Butazolidin, brand of phenylbutazone, therapy and steroids apply to Sterazolidin.

Indications: *Chronic treatment of:* rheumatoid arthritis, rheumatoid spondylitis, osteoarthritis; and also treatment of acute rheumatic conditions such as bursitis, synovitis, tenosynovitis, various forms of acute fibrositis, and acute gouty arthritis.

Contraindications
Usually absolute: active, questionably healed or suspected tuberculosis, herpes simplex ophthalmia, acute psychoses or severe psychoneuroses, history of blood dyscrasia, the frankly senile patient, and active peptic ulcer.

Relative: exanthematous diseases, particularly varicella and fungal diseases (for other viral diseases, the physician must weigh the possible undesirable effects against anticipated clinical improvement), diverticulitis, recovery phase after gastrointestinal surgery, any condition complicated by cardiovascular disease, renal insufficiency, moderate or severe diabetes mellitus, thrombophlebitis, osteoporosis, convulsive disorders, thyroid disease, history of drug allergy, history of peptic ulcer, hypertension, the elderly patient, psychotic tendencies, pregnancy, except in severe disease (the safety of Sterazolidin in pregnancy has not been established), edema, and hepatic damage.

Its use in conjunction with other potent chemotherapeutic agents may greatly increase the possibility of toxic reaction, and this practice is, therefore, inadvisable. Large doses are contraindicated in patients with glaucoma.

Warning Coumarin-type anticoagulants depress prothrombin activity. This is accentuated in some cases when Butazolidin, brand of phenylbutazone, is simultaneously employed in treatment; occasional instances of severe bleeding have been reported. Patients receiving coumarin-type anticoagulants should be very carefully followed for evidence of excessive increase of prothrombin time when Sterazolidin is added to this regimen. Anticoagulant therapy can then be properly adjusted, if necessary. When prescribed alone, Sterazolidin has not been shown to influence prothrombin activity. Persistent or severe dyspepsia may be indicative of peptic ulceration. In these instances, upper gastrointestinal x-ray diagnostic tests should be performed if the drug is continued. Pyrazole compounds, such as phenylbutazone, may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Patients receiving such concomitant therapy, therefore, should be carefully observed for this effect.

Precautions and Adverse Reactions *Gluco-Corticoid Activity:* In some diabetic patients on prednisone, the insulin requirements may be increased. It is advisable to observe diabetic patients carefully during the treatment period. Since gluco-corticoids may unmask latent diabetes, all patients should be observed for this effect.

Electrolytes: Many patients receiving prednisone in average amounts show some loss of sodium, with little or no loss of potassium. With continued high dosage, however, sodium retention and potassium loss have been observed. Butazolidin, brand of phenylbutazone, has a definite tendency to produce sodium retention and hence, edema, particularly in the older age group. Elderly patients or those with hypertension, cardiac defect or renal dysfunction should therefore use Sterazolidin with special caution and the drug should be discontinued if edema develops. Development of edema may be prevented or minimized by withholding salt from the diet. Sodium retention may be counteracted with oral diuretics.

Nitrogen: With the recommended dosage of Sterazolidin, the possibility of nitrogen loss is remote. However, it is recommended that patients receive adequate protein in their diet. Osteoporosis or spontaneous fractures may occur with prolonged use of prednisone.

Gastrointestinal Tract: Clinical and animal studies do not indicate that the ulcerogenic activity of prednisone or Butazolidin, brand of phenylbutazone, is enhanced in the combination. To overcome gastrointestinal discomfort and occasional eructation in sensitive patients the medication is best taken at mealtime or with milk; Sterazolidin contains antacid components to minimize the incidence of gastric complaints. All patients should be warned to report immediately the occurrence of black or tarry stools. The development of anemia should immediately suggest gastrointestinal bleeding.

Blood Elements: Patients receiving prednisone exhibit an eosinophil response similar to that seen with other steroids. During the initial weeks of treatment, Butazolidin, brand of phenylbutazone, usually causes some degree of hemodilution and resultant lowering of the red cell count. This phenomenon does not represent a true anemia and is not indicative of intolerance, but must be distinguished from true anemia secondary to gastrointestinal bleeding or other causes. With the extensive use of Butazolidin, brand of phenylbutazone, rare cases of agranulocytosis have occurred (ratio less than 1 per 200,000 patients). It should also be noted that agranulocytosis can occur suddenly in spite of regular, repeated normal white counts. Several cases of leukemia and leukemoid reactions have been reported with Butazolidin, brand of phenylbutazone, therapy. Although these reactions cannot be definitely attributed to this drug, the possibility of a causal relationship cannot be excluded. It should also be recognized that arthritic-type pains are sometimes the presenting symptom of leukemia. Accordingly, all patients receiving Sterazolidin should have

It's aggressive against acute arthritic pain and inflammation.



And, we want you to know all about it

routine periodic blood counts before and during therapy. Any unexpected, significant change in the total white count, relative decrease in granulocytes, or appearance of immature forms should be regarded as a signal for immediate cessation of therapy and institution of appropriate countermeasures. Thrombocytopenic purpura and aplastic anemia must also be considered possible side effects of therapy with Butazolidin, brand of phenylbutazone.

Stress: Surgery: Prolonged use of prednisone may cause a potentially critical degree of adrenocortical insufficiency which may persist even after cessation of prednisone therapy. Therefore, if a patient is subjected to significant stress, such as surgery or trauma, either during Sterazolidin therapy or within one year after cessation of therapy, it is advisable to administer additional steroid and/or ACTH for the duration of the stress. Delayed wound healing may also occur in patients on prolonged therapy.

Infections: High or prolonged doses of prednisone interfere with the usual immune mechanisms against bacterial and viral infections and may promote their dissemination. In general, steroid treatment should not be given in the presence of infections unless appropriate antibiotic therapy is instituted at the same time. Systemic and localized infection complications during hormone therapy have been observed, including fulminating pneumonia, tuberculosis, moniliasis and aspergillosis. Should intercurrent infection develop, indicated antibiotic therapy must be initiated promptly. Every patient who is to receive Sterazolidin for any length of time should be thoroughly examined, including chest x-ray, for the presence of pulmonary or extrapulmonary tuberculosis.

Hormonal Imbalance: Gluco-corticoids, in prolonged dosage, may cause manifestations of hypercortisonism or Cushing's syndrome, such as: moonface, abnormal fat deposits, mental disturbances, muscle weakness and atrophy, cutaneous striae, acne, ecchymoses, hirsutism, menstrual disturbances, edema, osteoporosis and spontaneous fractures, and hypertension. Also, by suppressing adrenocortical function, chronic prednisone therapy may cause some degree of atrophy of the adrenal glands. Therefore, if Sterazolidin is to be discontinued, the steroid dosage should be tapered off gradually. In addition, it may be advisable to stimulate the adrenal glands with ACTH. Prednisone induces a prompt decrease in the urinary 17-ketosteroids. Pretreatment levels are usually regained within 7 to 14 days after cessation of therapy. Under conditions of long-term administration, a small percentage of patients on phenylbutazone may develop varying degrees of reversible thyroid hyperplasia.

Allergic Response: Development of drug rash should alert the physician to promptly discontinue the drug. The presence of prednisone in Sterazolidin may reduce the degree of allergic response; nevertheless, the same cautious attitude must be preserved with Sterazolidin as with Butazolidin, brand of phenylbutazone, if allergic manifestations occur. Other adverse reactions that have been observed with glucocorticoid therapy include: excessive appetite and weight gain, hyperidrosis, pigmentation, dry,scaly skin, thinning scalp hair, tachycardia, thrombophlebitis, headache, neuropathy (including paresthesias and neuritis), diffuse vasculitis similar to periarteritis nodosa, subcapsular cataracts, impaired renal function, lupus erythematosus-like changes, convulsions, insomnia, abdominal distention, aseptic necrosis of the femoral head, acute pancreatitis and ulcerative esophagitis.

Miscellaneous: Stomatitis and, rarely, salivary gland enlargement occasionally require the interruption of treatment with Butazolidin, brand of phenylbutazone. Adoption of a lower dosage schedule and the institution of strict oral hygiene sometimes prevent recurrence of lesions. The infrequent occurrence of such subjective sensations as vertigo or languor during therapy with Butazolidin, brand of phenylbutazone, is seldom a serious or significant complication. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis and jaundice, hypersensitivity angiitis, pericarditis and several cases of anura and hematuria. Patients should be carefully evaluated before treatment is started and those receiving Sterazolidin must remain under close medical supervision to guard against undesirable reactions such as those described. They should be instructed to report immediately the occurrence of fever, sore throat, lesions in the mouth, or black or tarry stools. It is recommended that periodic examinations of the patient include:

1. Verbal and physical examination, including blood pressure and appraisal of the cardiovascular, digestive and skeletal systems, for indications of toxic reaction.
2. Complete blood count (at weekly intervals during the first month), urinalysis, x-ray and electrolyte studies, as indicated.
3. Check of patient's weight to detect significant water retention.

Dosage Dosage should be individualized. The following general rules should be observed:

In acute therapy, dosage *should not* exceed 12 capsules on the first day and 6 to 8 capsules on succeeding days. Treatment for more than 7 days is rarely necessary. When therapy extends beyond one week, dosage should not exceed 6 capsules a day.

In chronic therapy, dosage *should not* exceed 6 capsules a day and should be tapered off gradually to establish the minimum maintenance level at which the patient still feels reasonably comfortable. A trial period of one week of therapy is considered adequate to determine the therapeutic effect of the drug. In the absence of a favorable response, therapy should be discontinued.

When switching from chronic high steroid therapy to Sterazolidin, the importance of gradual reduction of steroid dosage cannot be overemphasized. It should be kept in mind that the steroid content of 8 capsules of Sterazolidin will replace 10 mg. of prednisone (or its equivalent in related steroids).

Clinical experience indicates that most patients with rheumatoid arthritis may eventually be maintained on 3 to 6 capsules of Sterazolidin a day. It is advisable to administer the total daily requirement in divided doses.

Availability Sterazolidin: Light blue and orange capsules, in bottles of 100 and 1000.
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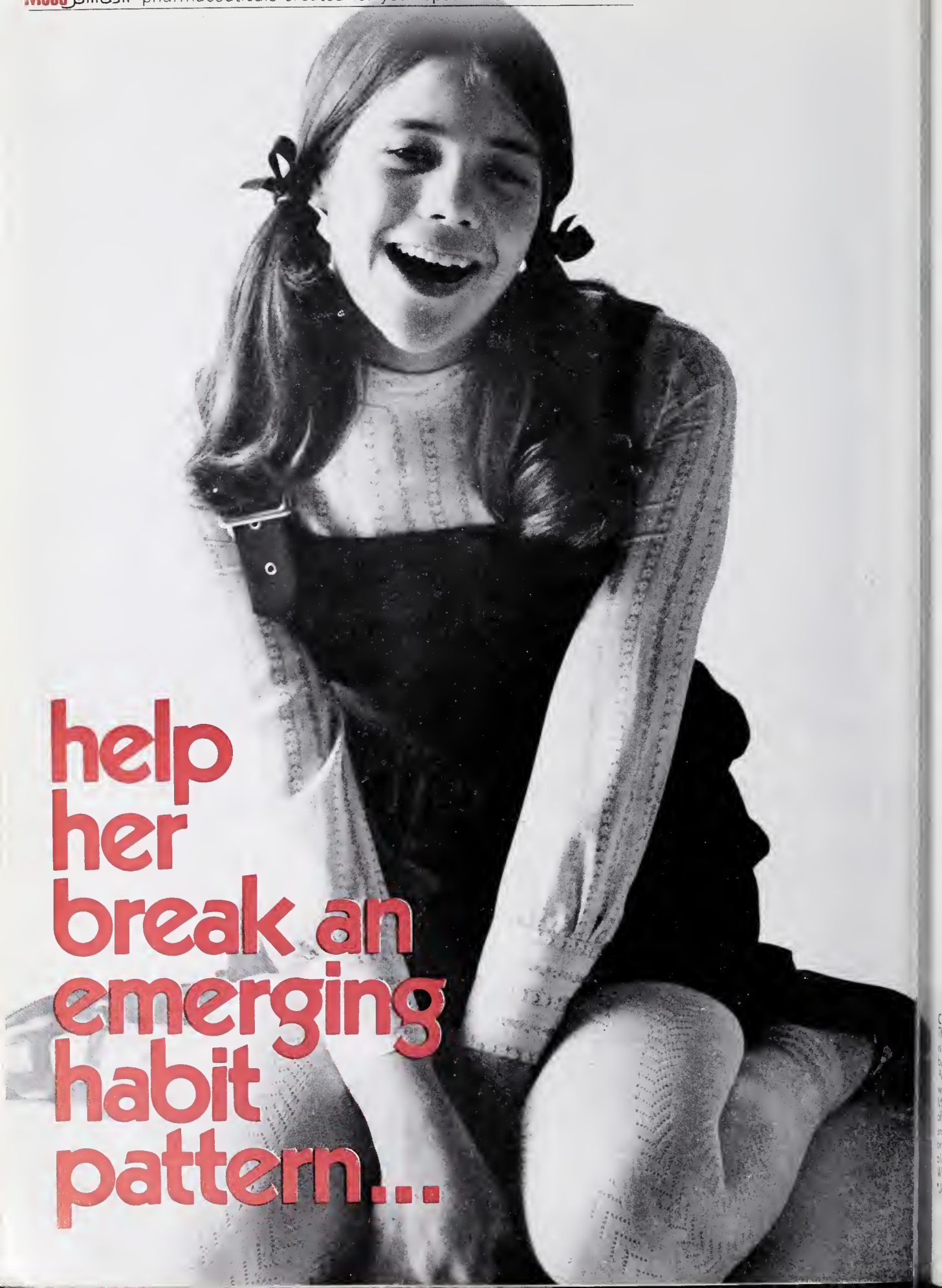
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*Jones, Georgeanna S.: Maryland Med. J. 16:45, 1967.

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Guest Editorial....

Crime, Cricket, and Conan Doyle— More on the Sporting Doctor

THERE SEEMS TO BE AN ENDURING INTEREST in the extracurricular feats of physicians whether as athletes, men of letters, or politicians. Even the infamous few are remembered for their exploits in piracy and less romantic crimes.[1] There was, for instance, Thomas Dover (1660-1742) of Bristol who rescued Alexander Selkirk (Robinson Crusoe) from the Pacific island of Juan Fernandez while on a privateering voyage around the world. Dr. Dover is probably better known for his "powder" (Pulv. Ipecac. et Opii), a sovereign remedy now ridden into obscurity by multihued pre-packaged antipyretic capsules. Less fortunate was Peter Scudamore (c. 1721), another ship's surgeon from Bristol, who took the unusual course for a professional man of signing a pirate ship's articles. This act helped him on his way via "the steps and the string" but not before he had sung solo the thirty-first Psalm on reaching the gallows. The vaudeville-sounding pair of poisoners, Crippen (1862-1910) and Cream (1850-1892), figure prominently in the list of doctor-criminals along with Dr. John White Webster (1793-1850) of Harvard who eliminated a Boston colleague, Dr. Parkman, in repayment for a loan. In a happier vein, however, we have the physician-athletes referred to in a recent Editorial in this journal (May, 1969).

Sir Arthur Conan Doyle (1859-1930) receives the honor of first mention in the Editorial as a "prominent cricketeer and football (soccer) player." Sir Arthur, an Edinburgh graduate, was in fact an all-round athlete who, in addition to playing both codes of football (he preferred rugby), "reached the third round of the Amateur Billiards Championship, and was a member of the British motor-racing team in the Prince Henry Tour in 1911."[2] He also skied, played golf, indulged in rifle shooting, and was, in his own words, "a fair average amateur" boxer.[3] He was apparently happiest as a cricket*er* (not cricket*eer*) but admits that he was able to use his pugilistic skill to great advantage in his novel *Rodney Stone*. It is perhaps significant that Sherlock Holmes did not play cricket but was an expert boxer, an accomplishment which helped him to defeat Professor Moriarty's hired thug, "upon whose front teeth I have

barked my knuckles." This bout of fisticuffs allowed Holmes to escape to Switzerland and dispose of his arch enemy at the Reichenbach Fall.

Conan Doyle was also a poet of sorts and again he was drawn to the prize ring for material. His poem, "Bendy's Sermon", refers to one William Abednego Thompson (1811-1880) of Nottingham, a twenty-first child whose triplet brothers, not surprisingly, were christened Shadrach and Meshach.[4] The "fancy", finding Abednego a bit of a mouthful, changed it to Bendigo and it was under this sobriquet that he became the Champion of England. Later in life he "got religion" and Doyle's poem relates how he leavened his evangelical zeal with a pinch of pugilism in quelling a group of rowdies in church. His name will always be remembered by the inhabitants of Bendigo, a mining town in Australia founded in 1851, and by the descendants of those lucky patrons of the turf who backed the thoroughbred Bendigo which won a series of races on the flat in the '80's.

The greatest doctor-cricketer, however, was not Conan Doyle; it was a popular, although sometimes forbidding, Gloucestershire general practitioner-surgeon, William Gilbert Grace (1848-1915). He attended both Saint Bartholomew's and the Westminster Hospital medical schools before receiving his medical degree at the advanced age of thirty-one years, the inference being that the study of medicine must have interfered with his cricket for more than a decade. "W.G.", as he came to be called, is the greatest cricketer of all time in the opinion of many experts. Playing in an era when the pitches had none of the billiard cloth smoothness of today, W.G. smote the opposition hip and thigh from 1865 to 1908 when, as the "Old Man", he retired with a string of records behind him. A man of height and girth, W.G. sported a full beard which on one occasion was traumatically parted by a ball from the Australian fast bowler, E. O. Jones. The question and answer which followed have become one of the legends of cricket—"What's this, Jonah, what's this?" "Sorry, Doctor, she slipped." He attracted anecdotes like feces draw flies and one of these apocryphal tales refers to the singular practice in cricket of batting for days on end with intervals for lunch and tea. The story goes that W.G. was consulted by a mother of twins who though that her offspring were developing measles. "Put 'em in bed together", came the reply "and don't bother me unless they get up to 208 for two before lunch."

W.G. was also a hurdler of repute and once slipped away from a game to win a quarter mile race at a nearby meet, immediately returning to his place on the cricket field. Two of his brothers were eminent cricketers and all the male members of his family, with one exception, were doctors. It seems likely that the "Dr. H. Grace" who directed William Budd (1811-1880) to his classical epidemiological investigation of typhoid fever was W.G.'s father, Dr. Henry Mills Grace.[5] It is even more certain that the eccentric Dr. Budd of Plymouth, with whom Conan Doyle entered practice, was a member of the Bristol epidemiologist's family, thereby establishing a tenuous link between the two physician-cricketers, Doyle

and Grace. A more concrete bond between them was established in a cricket match when Conan Doyle "had the good luck to get the wicket of W.G. Grace." W.G. promptly reciprocated by having Doyle stumped by Arthur Augustus Lilley, one of England's most renowned wicket-keepers. Unfortunately for our story, "Dick" Lilley was, *inter alia*, a sports outfitter and a publican but never a doctor.

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F. J. Spencer, M.D.

Editor's Note: Dr. Spencer is professor and chairman of the Department of Preventive Medicine of the Medical College of Virginia.

Presidential Address

F. ASHTON CARMINES, M.D.
Newport News, Virginia

AT ROANOKE, one year ago, you bestowed a great honor on me. I have tried to uphold this trust in the fine tradition of our past presidents. At times, it has been trying, but many of you have given freely of your time, advice and support. For this, I am eternally grateful. The loyalty and guidance of the staff has been of its unusually high caliber. We owe a debt of gratitude to Bob Howard and his fine staff.

As we are assembled here at Virginia Beach, by the shores of the Atlantic, let us ever be mindful of our past heritage and the vision of our forefathers. Just to the north of here, at Cape Henry, passed three sailing vessels from the old country, carrying men in search of a land of freedom and a better world.

As a sailing vessels moves, it requires a driving power and a directing system. Everything that moves with a purpose needs these two forces. The wind in a boat's sail makes it go, but it would wander aimlessly without a rudder which restrains or directs it. In times of darkness, the course is set by distant stars and not by the light of each passing ship.

During the past twelve months, it has been my policy, with God's help and guidance, to set the sail and man the tiller and to take a course which would ultimately do the most in keeping and promoting the ideals of our medical society—to promote the art and science of medicine, to improve our public health and to better the medical profession. So, with the concept of a sailing vessel, let's take a journey and explore what is a mature physician and what are his obligations to his profession. As you can see, this represents what makes an individual, what makes up his institution, what are his ideas and ideals.

All mankind, it might be said, is engaged in the single profession of trying to find and build a better world. Dean Roscoe Pound pointed out years ago that a profession possesses a common purpose under which its individual members become united and to which their private interests are subordinated. Every profession contributes its separate and special effort to the whole of mankind. Behind every deed, there must be a dream. Actions are not true, unless they proceed from ideal concepts. So, there is a difference between a profession and a simple trade or technician.

As physicians, we seek truth and impart it to our colleagues and to our society, so that mankind may live not only a longer life but a freer and untroubled life. The health and well being of the patient has always been, and will ever continue to be, the first concern of the physician, and adequate medical care should be available to all who need it. The objectives of adequate patient care and service are to make available to everyone, regardless of race, color, creed, financial or social status, every known preventive, diagnostic, curative and rehabilitative service of high quality at the lowest possible cost.

We in the profession of medicine are trying to make a better world, searching for the truth to make it possible in our realm and baliwick. Our professional system needs to be in tune, or step, with other professional systems, but keep in mind our past and fundamentals of freedom.

Man-Mankind; Physician-Profession;
One God; One World; Free men,

Presented at annual meeting of The Medical Society of Virginia, Virginia Beach, October 16-19, 1969.

mature men, working together to make a better world. Each in his own way to the best of his God-given ability.

Love your fellow man. But, how are you going to love your fellow man if you don't love yourself. Think about this deeply for a moment. So, I want you to think about, first, your obligations to yourself, and then to the group, or the profession of which you are a part, or even your medical society. "To Thine Ownself Be True."

"I looked about the world and saw that there was much to do.
The fields were ripe to harvest, but the laborers were few.
I wanted to be used to make the world a better place,
And set about the task to try and help the human race,
But I soon became discouraged, for my strength and wealth were small,
And my feeble efforts seemed so futile after all.
I talked to God about it then, and asked him what to do,
And God in all his wisdom said, let's make a better you."

So, let's talk about you, or myself, as a physician or as a mature doctor. What do I mean by maturity? I mean maturity when certain conditions are met, not just age. The conditions are: Intellectual—growing in knowledge; Emotional—development in understanding or managing ourselves; Ethical sensitivity—development in our attitude toward other persons; Spiritual awareness—development in our relationship to God.

As you well know, coming back to intellectual—growing in knowledge and our relationship to the world in which we live, it certainly strikes you and is still being brought to our attention daily, that even though we may have been awarded an M.D. degree, the learning process still continues. Knowledge is not the complete answer to becoming a mature person. You are all familiar with the smart alec or know-it-all. So, knowledge is not the answer to maturity.

Through emotional control of ourselves or developing an understanding of the passions and aggressions which take hold of us at times, we learn to manage ourselves.

We need an ethical sensitivity—development in our attitudes toward other persons. This is a condition which has to be met. We need to develop a proper attitude toward other people.

These three, growth in knowledge, emotional control and ethical sensitivity, man himself can obtain. But, in order to be a whole, or a mature person, there needs to be the fourth condition—a spiritual awareness. The development of a concept of wholeness is something about which I can tell you, but unless you have experienced it yourself, or you have become involved in this process of being aware of a God, or someone that is in control, or the Master and the Creator of the universe and of people, you never are able to grasp quite what I mean. But, if you look at the great people that have sensed and grasped, there is an awareness of something greater than themselves.

In the Bible, which is the handbook of life, there is stressed an element of unification called agape, or divine love. Two of the major characters of this book are Christ, who stressed perfection in man, and Paul, who stressed the road or the journey towards maturity. Man is continually striving and searching to become mature, more professional and more mature today than yesterday. We reach higher levels of existence as we grow in the grace and love of our God. So, as physicians, I feel that we should grow and become mature persons in a greater profession of making and developing a better world in which to live.

Seeking and growing under these conditions as a mature person, at this point, one begins to take a look at the institutions or

the organizations of which he has become a part.

Idea, Institutions, Ideals, Individuals.

So, let's take a look at our profession, and to do this, may I use Society, being our Medical Society, in an acrostic manner to explain how we should act, react and respond to situations which present themselves.

S. Social—Sensitivity—Service—Self. Keep in mind that we live in a world with a balance of nature, a balance of power, so we need a balance of individual being versus collective good. HOMEOSTASIS—*CONTROL* — A patient seeks and a physician serves. A patient presents himself with a problem. My task is to respond to his need, not desire or want. Sensitivity to react individually or by the profession which I represent. Sensitive to know what level to respond and to react and to help this patient, or to help the public. DEVELOP A SOCIAL SENSE — SENSITIVITY IN DEPTH.

O. An *opportunity* presents itself. We as individuals or a group should respond. People want a system to prepay for medical service performed. We want to have one also, but we want it to be voluntary and not State-controlled. In other words, we should take the opportunity of people wanting something and try to have our medical society respond in such a manner that we can provide that which is free and unencumbered and meets the need of persons. Continue the system of voluntary prepayment of service performed in the usual, customary and reasonable manner, negotiated by the peer review mechanism. Probably will not be possible in present social climate. No longer *if* compulsory national health insurance, but how and when. Gentlemen, your leader feels like Peter with his thumb in the dike. It's coming through.

C. Community of concern. You and I individually respond in our office, but then we respond in our City through our voluntary health agencies or United Fund or we respond in the State to the needs of people through our medical society or through the State Health Department, or on a Federal level through the Medicare and Medicaid programs. We indeed have a very sophisticated system here in America. But, believe you me, if you have ever travelled abroad, there is a need for us as individuals to be helping people all over this world.

I. Innovation. We certainly should, in a day in which there are large numbers of people, and we are going to have to innovate and respond with different methods of delivery of our service. We should respond in a method in which we keep our freedom, one in which there is still a one-by-one relationship. Each one that cares for a patient also has a one-by-one responsibility for what he does. Methods of service—as the quantity increases, there should be no dimunition in the quality.

E. Enthusiasm. If you look at the word "enthusiasm", it means God in you. It is that driving force, a love or concern for your fellowman. This is the force which makes you aware of the other person as well as yourself. As an individual physician we should impart this driving and sustaining force to the organization of which you are a member.

T. Time. This is something of which all of us have an equal amount. We should make good use of it. So, really, our time is here and now, with the totality of you as a person responding

to a person in need. If we are unable, as individuals, to do this, then it is our responsibility to see that the group develops a method or a system in which we can serve.

Y. You and I. In only a few short hours, I will no longer be your presiding offider. I'll be one of the group again. To make a better world, and a better society, and a better profession, you have to start with a better you.

"I am but one, but I am one. I can't do everything, but I can do something, and what I can do, I ought to do, and what I ought to do, by the grace of God, I will do."

My appeal to you as physicians is to grow daily in knowledge, develop control of your emotions, improve your attitude towards people in an ethical manner—always being aware of God and His love for every man—even your enemy. Always strive to be more mature and more perfect as each day goes by.

When patients seek solutions to their problems, my task is to respond to their needs. My prayer daily is to develop in me a keener sensitivity to know how to respond individually or by the organization which I represent—sensitive enough to know which level of my being to respond and serve. In my daily practice of medicine, leave me free to be concerned. Leave me free to be creative in solutions. Let me work to preserve a system politically that allows you and me to respond to the medical and health needs of men individually and collectively.

ONE GOD, ONE WORLD, FREE MEN, MATURE MEN—WORKING TOGETHER TO MAKE A BETTER WORLD, EACH IN HIS OWN WAY TO THE BEST OF HIS GOD GIVEN ABILITY.

S. O. S.

So, in closing, let's turn back to the illustration of a sailing vessel. Our medical society is sailing in stormy seas of social change, knowledge increase, technology change and population explosion. To save our ship, let's search our souls—our very being—to find and improve our system of service to meet the needs of our people—not only here in Virginia, but around the world.

MY EARNEST PLEA TO SAVE OUR SYSTEM OF PRIVATE PRACTICE IS TO REMEMBER THESE WORDS—

I AM A SERVANT OF SOCIETY BY CHOICE AND NOT A SLAVE OF THE STATE OR ANY SYSTEM BY FORCE OR DEFAULT.

Note: The author wishes to gratefully acknowledge all the sources from which he has obtained the material in this address. This material has been obtained from notes used in teaching a Bible Class over a period of many years, and it is impossible to trace the sources.

311 Main Street
Newport News, Virginia 23601

Undescended Testes

HUGH B. LYNN, M.D.
Rochester, Minnesota

The undescended testes should be surgically corrected by the time the patient becomes six years old. The diagnosis, which is not always easy, should have been made by the family physician or pediatrician well before this and the patient referred to the surgeon. Hernia repair is carried out at the same time.

CRYPTORCHIDISM is the commonest of all anomalies of the male reproductive system. For years it has posed a major problem for the general surgeon and the urologist. Knowledge of the problem has been enhanced tremendously over the past 15 years but no one would deny that there is much more to be learned about it.

Diagnosis

In infants and small children not the least of the problem is that of making a definitive diagnosis. Since the development of the testis and its descent into the scrotum may be arrested at any point, it is obvious that a search for the testis may reveal it in any position from high in the scrotum to low, high, or in the middle of the inguinal canal or in intraperitoneal sites. In addition to this, the testes may descend through the inguinal canal and then assume ectopic positions in the thigh, perineum, or on top of the external oblique aponeurosis outside the external ring but still in the region of the inguinal canal. All of these locations are undesirable, and every attempt should be made to identify the position of the testes and recommend correction. However, in the small infant with the somewhat undeveloped scrotum and a testicular mass that is relatively small in comparison to the strength of the cremasteric muscle fibers, a definite problem is presented. The so-called high-riding or retractile testis is one which should not be confused with the truly undescended testis. When hernia is obviously present, which is true in approximately 99% of the cases of undescended testes, further delineation is probably unnecessary, since herniorrhaphy will be required and the usual steps can be taken at the operating table to see that the testis finally is in its proper position in the scrotum. However, in cases of so-called bashful testis, a hernia usually is not demonstrable and extensive observation is desirable.

When both the age of the patient and the circumstances permit, placing the youngster at ease in a comfortable position on a couch in a warm examining room and observing the scrotal and inguinal areas during other phases of the physical examination may be most rewarding. It is frequently possible during a period of distraction and with the examination turned to other portions of the body to observe the testis slip into the upper part of the scrotum. Once this is observed, a surgical procedure is not indicated unless a hernia can be demonstrated. Gentle compression with warm fingers starting above the testis in the area of the internal ring and moving down the inguinal

From the Mayo Clinic and Mayo Foundation: Section of Pediatric Surgery.

Read at the meeting of the Virginia Surgical Society, Virginia Beach, May 16 and 17, 1968.

canal pushing the mass ahead of the examining fingers may easily push a testis into the scrotum. When this is done it is often possible to grasp the testis through the scrotal skin with the other hand and find that this causes little or no discomfort and gives little evidence of true tension. Such a case should alert the examining physician to the probability that this is not actually an undescended testis. However, should this procedure fail to move the testis beyond the pubis on several examinations, undescended testis seems a logical consideration. Some parents might be advised to observe their child after tub baths and other suggested activities in an attempt to see if, from time to time, the testis does reach into the upper part of the scrotum.

Surgical correction should be undertaken in all cases for at least six reasons. The first three of these are readily understood by the parents.

1. To make the patient normal—in the sense of being just like all other boys. To inexperienced parents, this is of prime importance and the connotation to them entails much more than the physical appearance of the child and carries implications of virility, masculinity, and so forth.

2. To repair the hernia. Once the presence of a hernia is definitely established and explained to the family, this is usually adequate impetus to produce consent for surgical treatment.

3. To facilitate the detection of any malignant change. While there appears to be a definite increase in incidence of malignancy in undescended testes, it is questionable whether most parents understand the true implication of the statistics. Emphasis on the ability of the patient, parents, or family physician to detect a small growth in a testis in the scrotum as compared to the great difficulty in detecting neoplastic change is a testis lying within the abdomen is obvious to any parent when the fact is pointed out. A recently published paper[1] shows statistical significance in the occurrence of malignancy in the normally descended testis in patients with unilateral undescended testis. While further studies are required to corroborate this finding, it appears sufficiently significant to warrant long-range follow-up of all patients with undescended testis. Such follow-up examinations should show equal concern for the untreated testis as well as for the testis which has been brought into the scrotum surgically.

The other three indications for surgical treatment are less easily understood by the parents.

4. To place the testis in a safer position. It is extremely difficult for parents to understand why a testis in the exposed position of the scrotal sac is safer than that in the abdomen or snugly compressed in the inguinal canal. A discussion of body temperatures and the ability of a testis to "swing with the punch" so to speak is usually greatly appreciated.

5. To establish the type of gonad and in some cases to establish the actual presence of a gonad. Biopsy of all undescended testes before operation is mandatory. It is almost impossible to explain adequately the necessity of this procedure to the average parents, but it remains, nonetheless, an important consideration in recommending surgical treatment.

6. To promote fertility. This has always been a difficult selling point for the surgical procedure and even the outstanding work of Robinson and Engle[2] in 1954 cannot be used as complete justification of this reason. Their studies, however, did show that little if any histologic difference prevails

between a descended and an undescended testis in the first five years of life. Over the next two to three years, however, evidences of maturation in the descended testis are definite; on the other hand, during these same years evidences of degeneration in the undescended testis are equally definite. Presumably this is largely due to the influence of body heat on the developing endocrine system. Studies by Gross and Jewett[3] and more recently by Kiesewetter and associates[4] would seem to indicate that increased fertility can be expected after operation. While this would ordinarily not be considered of great importance in the case of the unilateral undescended testis, the possibility of damage to the normally descended testis makes this of considerable importance to the patient, the family, and the physician controlling the decision for or against surgical treatment.

Management

For many years it was traditional to treat any patient with an undescended testis with injection of anterior pituitary-like hormones. This was done in the hope that surgery could be avoided. It has always been incomprehensible to me why this should be considered good treatment in a case of unilateral undescended testis, since the circulating hormone which performed its work satisfactorily on the one testis should certainly have been able to perform its work satisfactorily on the second testis had there not been some anatomic barrier to prevent its normal descent.

Bilateral cryptorchidism would have to be considered in a separate category and, while this is primarily the province of the endocrinologists and the pediatrician, it is my impression that there are many more cases of diagnosed bilateral cryptorchidism than there are of truly endocrine problems. Many overindulged fat little boys appear to have underdeveloped genitalia and undescended testes when, in reality, they are merely fat boys with excessive amounts of fat in the inguinal and pubic regions. At maturity they will be found to have relatively normal genitalia without evidence of undescended testes. In a similar manner it has been my impression that the great successes claimed for the use of anterior pituitary-like hormones in cases of unilateral undescended testis are, in all probability, successes based on the bashful or high-riding testis which, as a result of hormonal stimulation, will increase in size and gonadal mass and thus appear to have descended merely by overcoming the traction of the cremaster fibers.

It is my opinion that the use of hormones is rarely indicated and even more rarely successful. Their use in cases of unilateral undescended testis is probably never indicated and since operation is indicated 99 times out of 100 to correct the hernia and the 100th time in order to explore intra-abdominally for the presence of a gonad, there seems little to be gained by delaying the surgical procedure for a series of injections.

The final implications of the observations of Robinson and Engle[2] are not yet clear; however, the fact that changes do occur between the ages of five and eight years is enough to focus attention on this period. Since surgical treatment is going to be required later to repair the hernia or to establish the presence of a gonad and since there is no evidence in our practice of modern surgery that there is anything to be gained by waiting to an older age, either for the safety of the patient's life or for a greater guarantee of success for the operation, it seems only logical to attempt the operation before these changes can develop.

It is our practice to recommend surgery in the spring or early summer of the patient's fifth year of life with the anticipation that the youngster will be completely normal or will adjust to his abnormality (if such should be the case after operation)

before he enters school in the fall of his fifth year.

In cases of bilateral undescended testes it is my policy to operate first on the testis in the lower position. This is done with the assumption that the chance of surgical success is greater with the testis which is located nearer to the scrotal position. Once this has been accomplished successfully, a more relaxed surgical climate can be enjoyed by the surgeon and the family at the time of the second operation.

The decision to correct both sides at the same operation is naturally an individual one, but in most cases it seems wise to operate on one side and permit healing and evaluation of the result before operating on the other side. However, this decision is affected by many circumstances. In my experience the influencing forces have been largely of two types: (1) the geographic location of the patient and the hardships incurred by multiple trips, and (2) the fact that one testis is relatively atrophic or so situated that it can be easily and quickly placed in a satisfactory position.

Rationale of the Operation

In cases of true undescended testis as differentiated from either an ectopic testis or a normal, high-riding testis, the problem to be overcome surgically is that of obtaining sufficient length of the spermatic artery and veins to permit placement of the testis in the scrotum. The ductus deferens is never a limiting factor. Once the testis has been exposed, the hernial sac closed, and the vessels and spermatic duct dissected well away from the posterior peritoneum, it becomes a matter of sufficient dissection to assure that there is no limiting factor other than that of the basic length of the vessels. It is then possible to convert the course of the testis and its vessel from traversing two sides of a triangle to that of traversing the hypotenuse of the triangle by passing the testis and its structures beneath the inferior deep epigastric vessels and directly over the pubic ramus. The method of fixing the testis in the scrotum is a matter of personal preference. In most cases a transfixing suture of 3-0 black silk passed through the lower pole of the testis and then passed out through the base of the scrotum and fixed over a small piece of dental roll is adequate. In cases in which greater tension is encountered, it is often advisable to make an incision through the base of the scrotal skin and to create a subcutaneous pocket and then a defect in the tunica dartos through which the testicle is drawn; the fascia is then snugged up so as to prevent retraction of the testis without compromising the circulation.

As the result of experience with this operation in the five- to seven-year age group, it is my firm opinion that no testis should be removed because of inability to place it in a satisfactory position unless the testis is truly intra-abdominal and cannot be brought down at least half way along the inguinal canal. In any case in which the final location seems unsatisfactory, I would prefer to do a second stage procedure, if the testis appears to retract above the superior ramus of the pubis, rather than to sacrifice it at this time.

One important point to discuss and clarify with the parents before undertaking this operation is the fact that testes ordinarily do not lie at the same level in the scrotum. If this is pointed out to the mother beforehand, there is little dissatisfaction postoperatively; however, if it is pointed out only as a postoperative observation it is common for the parent to feel that an incompetent surgeon is trying to justify his inadequacies. While this point seems humorous, it is very important in assuring the overall success of the operation.

Results of Operation

In eight cases at the Mayo Clinic no testis was found. In all of these cases a small mass of fibrous tissue was encountered at the end of the cord structures and the cord structures occupied a normal position in the

inguinal canal. Biposy of the fibrous tissue has not shown any evidence of testicular tissue. It has been the experience at this clinic that in no case in which the cord structures have occupied a normal position in the canal has a testis been found in a retroperitoneal position. Presumably the small mass of fibrous tissue represents the end stage of fibrosis of a gonad which, in several cases, had been reported to be present in infancy. While some of the cases may have truly represented an agenesis, it is probable that torsion of the testis, undetected at the time, was responsible for the condition.

In 68% of the patients the testis was located somewhere within the canal. In 12% of the patients, the testis at operation was lying in the retroperitoneal area or intra-abdominally. However, in most of these patients it was easy to draw the testis out through the internal ring to a position in the upper inguinal canal before any retroperitoneal dissection was undertaken. The remaining cases in this series represented the ectopic testis which was passed out of the external ring and has assumed a position either on top of the external oblique aponeurosis or in the perineum. No case has been encountered of a testis located in the medial thigh.

The worst complication and the only case of real failure was that of a testis observed by the patient's parents to be in the scrotum on the 15th postoperative day, but on the morning of the 16th day, after the patient had climbed a tree, the testis was located above the pubic ramus in the inguinal canal. Immediate reoperation was recommended but was refused by the family.

Comment

Obviously the surgeon cannot operate on a patient at what he considers to be an optimal age if the patient is not referred to him before that time. In the Mayo Clinic series of cases only a third of the patients referred for operation for undescended testis have been less than six years of age. Even this statistic does not represent a true picture of our success at conveying our thinking on this subject to our referring physicians, since among the patients operated on were all the youngsters who had had trouble with incarceration of hernias in infancy and during the toddling age.

Ideally, all patients with a question of undescended testis should be referred to the surgeon by the family physician or pediatrician as soon as the diagnosis is entertained so that a tentative decision could be made as to the optimal time for operation and the situation could be explained thoroughly to the family.

Summary

Meticulous care should be made in making a definite diagnosis of undescended testis. There is little place for the use of hormone therapy in the treatment of undescended testes, and in the case of unilateral descended testis there is no justification for such therapy. The optimal time for surgical correction is between the fifth and seventh years of life. A biopsy specimen should be taken from every gonad at the time of surgical correction. In the event that a satisfactory position of the testis cannot be accomplished, it would seem wiser in infants and children to stage the procedure rather than to remove the gonad at this age.

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History and Epidemiology of Coalworkers' Pneumoconiosis

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There is little doubt that the inhalation of coal dust causes the disease seen in coal miners which is known as coalworkers pneumoconiosis.

ALTHOUGH THE DANGEROUS EFFECTS of inhaling silica dust were known prior to 1900, coal miners were thought not to be at risk of developing pneumoconiosis unless they engaged in drilling into silica containing rock. Coal dust with its low silica content was considered harmless.

The report of Collis and Gilchrist[1] in 1928 introduced some doubts as to the inert nature of coal dust. They showed that coal trimmers in the Cardiff docks who distributed coal in the holds of ships and were only exposed to coal dust, developed radiological changes identical with those in underground coal face workers.

Coal face workers from the anthracite area of South Wales who were known to suffer from shortness of breath in middle and old age were found demonstrating radiological changes similar to silicosis.[2] However, these men had not been drilling into rock.

Investigations by the Medical Research Council[3] at Swansea docks in 1934 did not confirm the findings of Collis and Gilchrist. This led to the conclusion that silicia was after all the offending agent causing coal workers' pneumoconiosis.

It was Gough[4] in 1940 who finally proved that coal trimmers at Cardiff docks developed a lesion in the lungs pathologically identical with that found in coal face workers but different from the classical silicosis.

By 1942, Hart and Aslett[5] were able to confirm the findings of Collis and Gilchrist at Cardiff and also at Swansea docks. They showed that while anthracite miners had a higher incidence of pulmonary abnormality than those mining steam coal (bituminous), the reverse was true of the trimmers handling the corresponding type of coal. The solution to this apparent paradox was a consequence of the fact that anthracite mining gives rise to considerable dust whereas when it is shovelled in the holds of ships it has been washed and produces less dust. The reverse applies to bituminous coal.

The pneumoconiosis seen in South Wales was not unique. Descriptions of the radiographic findings in coal miners in the United States suggested that the same disease was occurring here.[6,7] Direct comparisons of chest roentgenograms of miners in South Wales with those from the United States has strengthened that viewpoint.

Although the pathological lesion of coal workers' pneumoconiosis appears to be qualitatively the same throughout the world, the incidence and rapidity of progression may not be, since quantity and composition of coal dust varies from one coal field to another.[8]

Epidemiology

The diagnosis of coal workers' pneumoconiosis can be made with certainty during

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life only by history of dust exposure and a chest roentgenogram that shows the characteristic changes.[9] The roentgenogram in *simple pneumoconiosis* shows minute opacities varying from pinhead to 1 cm in diameter.[10] This category may be subdivided, based upon the extent of lung involved. *Complicated pneumoconiosis* is characterized by opacities larger than 1 cm that are usually superimposed upon a background of minute opacities. This form may be subdivided, based upon the extent of lung occupied by the large opacities. Only the broad categories of simple and complicated forms are used in this discussion.

The prevalence of coal workers' pneumoconiosis in the United States varies from region to region. McBride et al.[11] found evidence of pneumoconiosis in 30 percent of working miners in eastern Pennsylvania. The prevalence of pneumoconiosis among retired miners from the same area was nearly 76 percent. Approximately 17 percent of the working miners and nearly 67 percent of the retired miners with pneumoconiosis demonstrated the complicated form.

In central Pennsylvania[12] 30 percent of the working miners and 55 percent of the retired miners demonstrated roentgenographic changes consistent with coal workers' pneumoconiosis. Forty percent of the working miners and 56 percent of the retired miners with pneumoconiosis had the complicated form.

Eleven percent of working miners in western Pennsylvania[13] and 28 percent of retired miners were found to have roentgenographic changes of pneumoconiosis. Thirty seven percent of the working miners and 40 percent of the retired miners showed evidence of the complicated form of pneumoconiosis.

Participation in the Pennsylvania surveys was on a voluntary basis and no attempt was made to obtain random samples. In contrast, all of the recent surveys conducted in West Virginia were random samples with good response rates.

Hyatt et al.[14] reported a study of a random sample of working and ex-miners 45 to 55 years of age from Raleigh County in southern West Virginia. Forty six percent of these men showed roentgenographic evidence of pneumoconiosis. The complicated form was present in 16 percent of this group.

Enterline[15] reported random samples of working miners age 21 and older in two communities. In Richwood, located in Nicholas County in eastern West Virginia, 10 percent of the miners had pneumoconiosis. Twelve percent of this group had roentgenographic evidence of the complicated form. Nineteen percent of the working miners in Mullens, located in Wyoming County in southern West Virginia had roentgenographic evidence of pneumoconiosis. The complicated form was present in 29 percent of this group.

Higgins et al.[16] found that 18 percent of working miners in Marion County in northern West Virginia had evidence of pneumoconiosis and none of these had the complicated form. Nearly 15 percent of the retired miners had pneumoconiosis, of which 12 percent had changes attributable to the complicated form.

No reports of random surveys exist for any of the rest of the coal mining states. Series of cases have been reported from clinics in Kentucky,[17] Ohio,[18] and Tennessee[19] as well as West Virginia,[20] but these are not random samples of any well-defined geographical unit.

Hart and Aslett noted a marked variation in the prevalence of pneumoconiosis from one area to another in Britain. They proposed the "rank hypothesis" to explain this variation. The theory holds that the higher the rank of coal (older, harder, less volatile components), the greater the risk of developing coalworkers' pneumoconiosis.

Morgan[21] recently compared the prevalence of coalworkers' pneumoconiosis in the Appalachian coal fields with the rank of coal mined and concluded that the rank

hypothesis may explain the observed wide variation in prevalence in this country.

Coal workers have mortality rates that are nearly twice those for all working males in the United States even when deaths from accidents are excluded.[22] Diseases of the respiratory system account for most of the excess mortality. Coalminers and their wives suffer from respiratory symptoms more frequently than the rest of the adult population in the United States.[15] Coal miners generally have lower ventilatory capacity than do males in other occupations.

The role that chronic bronchitis and emphysema play in causing respiratory symptoms and contributing to pulmonary impairment in coal miners has not been precisely defined.

Summary

Coalworkers' pneumoconiosis is a pathologic entity, recognizable in life by a characteristic roentgenographic appearance coupled with a history of appropriate dust exposure. It is generally regarded as distinct from silicosis although controversy about this still exists. Studies of the prevalence of this condition in the Appalachian coal mining states reveal a marked variation from region to region. The prevalence among working miners ranges from 10 to 30 percent. Among retired and ex-miners the prevalence ranges from nearly 15 to 75 percent. An hypothesis relating the prevalence of coalworkers' pneumoconiosis to the rank of coal mined in that area may explain the regional variations.

Among coal miners there is an excess mortality for diseases of the respiratory system. Miners and their wives suffer from respiratory symptoms more frequently than the rest of the adult population in the United States. Miners generally have lower ventilatory capacity than adult males in other occupations.

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Coalworkers' Pneumoconiosis

The Clinical Features

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COAL has long been and continues to be a source of energy, and references to coal mining can be found in "The Saxon Chronicle of Peterborough" (852 A.D.) and also in Bishop Pudsey's "Boldon Book" (1180 A.D.). In Elizabethan England a shortage of wood for burning led to an expansion of coal mining with a corresponding alteration of domestic hearths and furnace fires to suit sea coal. In 1661 John Evelyn wrote in his "Fumifugium" in these terms: "Newcastle Cole as an expert physician affirms, causeth consumptions, phthisicks and the indisposition of the lungs, not only by the suffocating aboundance of smoak, but also by its virulency, for all subterrary fuel hath a kind of virulent or arsenical vapor rising from it; which, as it speedily destroys those who dig it in the mines, so does it, by little and little, those who use it here above them." As far as air pollution is concerned, things in England seem to have changed little since the first Elizabethan Age; nonetheless, British coal mines are now relatively safe. Early in the nineteenth century the morbid anatomists of Paris described melanosis of the lungs. Laennec in his "Traite de L'Ausculation Mediate" (1819) clearly differentiates secondary melanotic carcinoma of the lungs from the black pulmonary matter found in the lungs of coal miners.[1] Gregory, in 1831, was the first person to point out that the black material in the lungs had an occupational origin.[2] Since that time a plethora of articles devoted to industrial pulmonary disease has come into being but despite much research and effort, the causation of respiratory disease in coal miners remains in part obscure and shrouded in mystery.

In Continental Europe, the United Kingdom, the United States, Australia and South Africa, coal is still extensively mined and remains one of the cheaper sources of energy. In most of these countries it is accepted that coal miners have a higher incidence of lung disease than does a comparable population of non-miners. The cause of this increased morbidity and mortality from lung disease, however, is not completely understood and, moreover, cannot be attributed to a single respiratory disease or any one particular set of circumstances that they encounter in the performance of their job. Thus, while most authorities accept the fact that there is an increased incidence of nonspecific obstructive airway disease in coal miners as a whole, there is at present no conclusive evidence to show that it is related to the inhalation of dust except in special circumstances.

The attitude of the medical profession in the United States to the problem of coalworkers' pneumoconiosis has been, and still is, characterized by obscurantism and a persistent refusal to face the facts. From the time that the Saranac group first categorically asserted that coal dust was not harmful, and that the presence of occupational respiratory disease in coal miners was a consequence of exposure to silica rather than coal, there has been an uphill and protracted fight to correct this misapprehension. Even now many states—Virginia being a notable exception—refuse to acknowledge the existence of coalworkers' pneumoconiosis and fall back on the term silicosis. Perhaps a

brief review of evidence to show that it is a disease in its own right is apropos at this stage. While coalworkers' pneumoconiosis is predominantly associated with underground coal mining, it was the occurrence of the disease in coal trimmers that first called attention to its existence as a separate entity. A coal trimmer is a special type of stevedore who is responsible for the loading and distribution of coal in the holds of ships. Unless the coal is evenly distributed, the ship may become unstable and develop a list while at sea. Exported coal is washed prior to being loaded and its silica content is minimal. Collis and Gilchrist[3] and later Gough[4] showed that Cardiff and Swansea coal trimmers developed radiological abnormalities which were either identical to or bore a close resemblance to classical silicosis. At post-mortem their lungs were found to be full of coal dust; however, the silica content was not increased above the general non-mining population. Moreover, it was later shown that the prevalence of coalworkers' pneumoconiosis, and this includes both progressive massive fibrosis and the simple variety, bore no relationship to the silica content of the coal mined. On the other hand, the presence of radiological changes in life correlates well with the coal dust content of the lungs found at post-mortem. Additional support for the hypothesis that coal dust or carbon alone can produce disease was forthcoming from the demonstration of a type of pneumoconiosis that developed in carbon electrode workers as a result of exposure to pure carbon.[5] This was pathologically and roentgenographically similar to coalworkers' pneumoconiosis. The silica content of the lungs of these persons was either less or the same as that found in the general population. There would thus seem to be little doubt that coalworkers' pneumoconiosis is distinct from silicosis.

Pneumoconiosis is defined as a diagnosable condition produced by the inhalation of dust. Coalworkers' pneumoconiosis is therefore caused by the inhalation of coal dust. It has been classified into two types, simple and complicated, and the diagnosis and differentiation depends on the radiological appearance of the chest film.

Simple Pneumoconiosis

Simple pneumoconiosis is recognized by the presence of either multiple small pin point and nodular densities or reticulation in the chest film. This variety has been further subdivided into categories 1, 2 and 3 according to the extent and distribution of the nodular opacities. Pathological studies have shown that these densities represent small aggregates of coal dust with some surrounding fibrosis.

These collections of coal dust are located around the first division of the respiratory bronchiole. They are sometimes accompanied by a little reticulin fibrosis and in category 2 and 3 simple pneumoconiosis there may be a mild to moderate dilatation of the respiratory bronchiole—so called focal emphysema. The latter is a consequence of atrophy of the smooth muscle in the bronchiolar wall. The gross appearances thus closely resemble centrilobular emphysema; however, unlike this entity the respiratory bronchioles do not show evidence of bronchiolitis.

Respiratory impairment is found only in category 2 and 3 simple pneumoconiosis and even then is seldom associated with disability. As indicated earlier, miners as a whole have more respiratory symptoms and a lower ventilatory capacity than do non-miners. At first glance this would seem to incriminate their occupation. On the other hand, when the ventilatory capacity of a group of miners with radiologically evident coalworkers' pneumoconiosis is compared to a comparable group of miners with no radiological exidence of the disease, several interesting anomalies are evident. First, there is no difference in ventilatory capacity between miners with category 1 and 2 coalworkers' pneumoconiosis and those without

it. However, those who have category 3 do show a slight but significant decline in their ventilatory capacity. When progressive massive fibrosis is present, there is a significant and marked decline is pulmonary function (Figure 1). It is thus apparent that simple

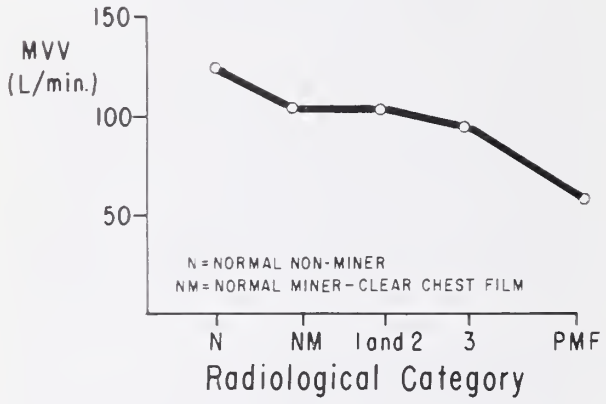


Fig. 1

pneumoconiosis produces little or no effect on ventilatory capacity until category 3 is reached. It might be argued, however, that the disease might affect other aspects of pulmonary function, and indeed there is some evidence to this effect. Both Hugh-Jones[6] and Brasseur[7] have demonstrated an increased A-a gradient in miners with simple pneumoconiosis, but in this connection both workers stress that this finding is not associated with either dyspnea or pulmonary disability. Arising out of this finding, Lyons and his co-workers were able to demonstrate a reduction in the diffusing capacity in subjects with the pin-head variety of simple pneumoconiosis but not in the nodular type.[8] The recent claims that coalworkers' pneumoconiosis leads to "small vessel" disease and pulmonary hypertension have not been confirmed. Furthermore, the suggestion that this type of physiological impairment may be found in the absence of radiological evidence of the disease seems highly improbable, since it is reasonable to assume that in general the more dust present in the lungs, the greater the likelihood of physiological impairment. It has been repeatedly shown that the greater the amount of dust in the lungs, the higher the radiological category; thus it can be inferred that those with clear chest films have little in the way of dust retention and are most unlikely to show respiratory impairment. In this connection it is pertinent to note that the British regard category 1 simple pneumoconiosis as a being of little consequence other than as the first indication of dust retention.

How then can the lower ventilatory capacity of coal miners be explained? There are several possibilities: first, that the inhalation of coal dust produces a form of obstructive airway disease or industrial bronchitis. There is some evidence to suggest that this is indeed so; however, the effects of coal dust are so over-shadowed by the effects of cigarette smoking, that it is difficult to confirm this hypothesis. Moreover, whatever the cause of bronchitis, be it cigarette smoking or dust inhalation, the symptoms and physiological abnormalities are the same. Muddying the water more is the fact that miners' wives have more respiratory symptoms, e.g., cough and sputum, then do the wives of non-miners. A second possibility is related to the smoking habits of the coal mining population. The average coal miner smokes as many cigarettes in a day as does the non-miner; however, since he is unable to smoke while at work, he must get through them in a much shorter period. A further possible explanation might be found in differential migration. Were the fitter miner to move out of coal mining after a few years, then the less healthy would remain. This would account for the lower pulmonary function in those remaining. Suffice it to say that whatever the cause of the lower ventilatory capacity in coal miners, it still remains a matter of speculation.

Thus it is evident that as far as simple pneumoconiosis is concerned the diagnosis depends entirely on radiological criteria. There are neither specific symptoms nor characteristic abnormalities of pulmonary function that enable the physician to say the patient has the disease. Finally, it is generally accepted that simple pneumoconiosis

is not associated with much in the way of respiratory disability, although most authorities agree that subjects with category 3 simple pneumoconiosis have a slightly lower ventilatory capacity than do subjects with categories 1 and 2.

Progressive Massive Fibrosis (PMF)

Certain subjects with simple pneumoconiosis go on to develop progressive massive fibrosis. This serious complication occurs in around one to three per cent of active miners. It is seldom seen except on a background of either category 2 or 3 simple pneumoconiosis. While it is in part related to the duration of exposure to coal dust and is almost never found in miners who have not worked for at least 15 years underground, other factors undoubtedly play a role in its pathogenesis, viz. tuberculosis in some instances, non-specific infections in others, and possible auto-immunity in all. Progressive massive fibrosis appears on a chest film as a dense opacity or opacities that initially may be relatively small, but may grow to occupy almost the entire lung. Histological examination reveals large areas of collagenous fibrosis with frequent cavitation. The latter may be a consequence of either ischemic necrosis or tuberculosis. In long-standing cases, when the densities are large, there is a reduction of the alveolo-capillary surface and the pulmonary capillary blood flow is compromised. This leads to pulmonary hypertension and cor pulmonale.

In most subjects with progressive massive fibrosis there is quite marked respiratory impairment. The majority show a reduction in their vital capacity and often in their other lung volumes as well. A lowering of the arterial pO_2 tension is almost always found, this usually being a consequence of ventilation-perfusion abnormalities. Some degree of obstruction may be present. The diffusing capacity may be markedly reduced and the magnitude of the reduction is closely related to the size of the conglomerate masses. Pulmonary hypertension is common. Thus any subject who presents with the radiological features of progressive massive fibrosis, and who is obviously disabled owing to respiratory impairment, can legitimately be assumed to have acquired his disability as a consequence of his occupation.

In conclusion, it can be said that coalworkers' pneumoconiosis is a disease produced by the inhalation of coal dust. Without coal dust, there would be no disease, nevertheless, other factors play a role in its development and in this connection some elaboration is necessary. The British have shown that in general coalworkers' pneumoconiosis occurs more commonly in mines with high levels of respirable dust, yet there have been, and still are, obvious exceptions to this rule. They therefore considered what other factors might influence the frequency of the disease. The silica content of the coal mined seemed to have little or no effect, but when they looked at the rank of the coal mined, they found a relationship between it and the prevalence of the disease, viz. the higher the rank, the greater the prevalence. A similar situation exists in the United States.[9] The rank of a particular coal is related to its age, its carbon content, its volatility, and to the number of British thermal units it liberates per unit weight when burnt. In general, higher ranked coals produce more heat, contain less volatile matter and have a higher carbon content. Another factor which probably influences the prevalence of the disease is the volume of air the miner breathes at work; tasks which involve hard physical work necessitate a higher minute volume and this is likely to lead to more dust being deposited in the alveoli. With increasing mechanization, prolonged physical exertion is becoming increasingly uncommon. Lastly, the rate of clearance from the respiratory tract of inhaled particles varies from one person to another and there is little doubt that this is a partial explanation of why some miners develop the disease while others do not. In this context, the deleterious effects of smok-

ing on ciliary function would seem to place cigarette smoking miners in double jeopardy.

No matter how one looks at the problem, and it is a problem of some magnitude, the answer must lie in dust control. The British have shown what can be done with efficient dust control; there is every reason to try and emulate them, always remembering that the American miner produces five tons of coal for every one that his British counterpart produces and that absolute parity, viz. in coal production and dust levels, would mean that the United States coal industry would be out of business in a month.

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HISTORY AND EPIDEMIOLOGY OF COAL-WORKERS' PNEUMOCONIOSIS—Lapp

(*Continued from page 711*)

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Anticoagulant Induced Intramural Hematoma of the Small Intestine

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Recognition of this complication of anticoagulant therapy will save an already ill patient the added burden of an unnecessary surgical procedure.

THE BLEEDING MANIFESTATIONS of anticoagulant therapy are well known to all physicians and usually have overt clinical manifestations.

This report describes an unusual complication of such therapy, an intramural hematoma of the small bowel, and entails its clinical and radiographic picture producing a partial small bowel obstruction.

Case Report

A 71-year-old, white, female diabetic had recently been discharged from another hospital with a diagnosis of cerebrovascular insufficiency, and anticoagulant therapy had been started at that time.





Figs. 1 and 2. Distention of Small Bowel Loops and Multiple Air Fluid Levels compatible with partial small bowel obstruction.

One day prior to admission to Commonwealth Doctors' Hospital, she noted crampy

lower abdominal pain, which was followed by repeated episodes of vomiting, at times fecaloid in nature, and continued pain. Subsequently, she passed a small bloody stool and became febrile.

Physical examination on admission revealed an obese dehydrated white female. Pertinent findings included a sinus tachycardia and tenderness in both lower quadrants of the abdomen. This was associated with abdominal distention and hyper-active bowel sounds.

Laboratory studies: Sodium 132 meq L., Potassium 5.4 meq L., CO_2 19 meq L., Chlorides 82 meq L., BUN 30 mgm%, random blood sugar 276 mgm%, Hb 15.2, Hct 44, WBC 18,000 with a marked shift to the left. Urine: 3+ glycosuria, 1+ protein, negative for occult blood.

Prothrombin time, control 12.1 seconds, patient 67.4 seconds. Following Vitamin K therapy—24 hours after admission—control 12 seconds, patient 17 seconds.

X-ray studies: Initial KUB revealed distention of small bowel loops, multiple air fluid levels in the right lower quadrant, and some scattered air throughout the descending colon compatible with partial small bowel obstruction. (Figs. 1 & 2)

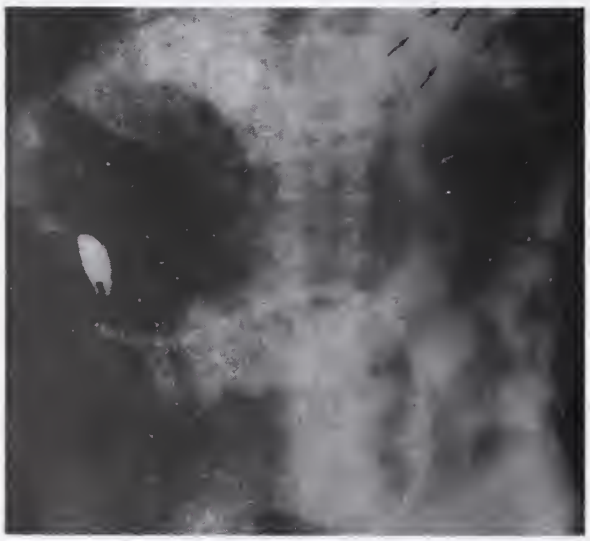


Fig. 3. A narrow segment of distal ileum opacified with hypaque.

Subsequent fluoroscopy after passage of a Cantor tube revealed a narrow segment of distal ileum which was opacified with hypaque. (Fig. 3). A follow-up study with barium after the patient had clinically improved, showed contrast material outlining a somewhat narrowed segment of distal ileum with "spicules" projecting from the ileum to the pelvis. (Fig. 4).



Fig. 4. Following barium the "so-called" picket fence appearance of an intramural hematoma.

The diagnosis was suspected clinically after the initial prothrombin time was ascertained. The patient was treated with long tube intubation, intravenous fluids, Vitamin K_1, and insulin. With correction of the prolonged prothrombin time, she improved, and clinical signs of the intestinal obstruction cleared, and an uneventful recovery followed.

Discussion

This somewhat unusual complication of anticoagulant therapy has only been identified since the early 1960's. Its clinical recognition may save an unnecessary surgical procedure in an acutely ill individual.

A typical clinical picture has evolved[1] consisting of crampy abdominal pain and distention, vomiting, hyperactive bowel sounds, and varying degrees of obstipation. This is certainly compatible with all forms of partial small bowel obstruction, but a markedly prolonged prothrombin time may point to the etiology. Surgically resected specimens have demonstrated intestinal and

submucosal hemorrhage with preservation of the overlying mucosal architecture. The upper jejunum has been the most common site of hemorrhage as it is in traumatically induced episodes.

The roentgen appearance of the bowel has been described by Senturia[2] as resembling an infiltrative process of the small bowel wall with an intact coarsened mucosal pattern. The lumen is diminished, and narrow spike-like projections of barium extend to outline the width of the bowel wall. This is the so called "picket fence" appearance (Fig. 4).

Apparently age is a detriment in Coumarin induced GI bleeding. Pollard[3] has found the average age of patients with major bleeds to be greater than sixty-six years. In fact, bleeding episodes in patients 70-80 years of age are twice as common as those in the 30-40 age bracket. In this, individual age and the diabetic state may have contributing factors.

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Statistics Relating to Annual Registration of the Members of the Healing Arts

We planned this year to make an effort to determine the type of practice done by the doctors in the State of Virginia. The new roster, which came out about October 1, shows the results of this effort. We realize fully that this first effort will not be completely accurate. A foreword in the roster asks the doctors to be patient with us and to be sure to let us know by letter of the mistakes that have been made.

The statistical information is briefly as follows:

Total number of complete registration	6617
Total number of medical doctors registered	5884
Total number of physicians that are general practitioners	1395

Clinicopathological Conference . . . .

Recluse with Heart Failure

Edited by—
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DISCUSSANTS:

Dr. John P. Utz, Chairman and Professor, Department of Allergy and Infectious Diseases, Medical College of Virginia.

Dr. William J. Cassada, Jr., Assistant Instructor, Department of Radiology, Medical College of Virginia.

Dr. Margaret Jones, Assistant Professor of Pathology, Medical College of Virginia.

Clinical History

This 64-year-old retired seaman who had lived for many years as a recluse in Gloucester, Virginia, was referred to the Medical College of Virginia Hospitals on 4-17-67 for evaluation of anasarca.

The patient had apparently been in good health until six to eight weeks prior to his admission here when he noted the onset of dyspnea on exertion and nocturia two to three times per night. He denied any orthopnea, paroxysmal nocturnal dyspnea, tachycardia, chest pain, cough or hemoptysis. He had noted urinary and fecal incontinence for the preceding month. Two weeks prior to coming to the emergency room he had taken to his bed because he felt tired most of the time. He had noted swelling of his lower extremities two days prior to admission and was seen by his local physician who referred him to the emergency room.

Review of systems was negative except for the presence of a left internal strabismus for the past 18 years.

Past Medical History: Non-contributory.

Physical Examination: Temperature 98.6°, pulse 80, blood pressure 120/80, respirations 20. The patient was an obese, dirty, aged white male who appeared chronically ill but in no acute distress. HEENT: There was a left internal strabismus and a questionable left temporal field defect. The fundi were poorly visualized due to cataracts. The pupils did not react to light or accommodation. The neck was supple without venous distention. Carotid pulses were equal bilaterally. The chest was symmetrical and there was pitting edema of the chest wall. The lungs were clear to percussion and auscultation. Heart: PMI could not be palpated. There was an irregular rhythm with a normal rate. No murmurs were detected. The abdomen was obese and there was pitting edema in the flanks. There was no detectable organ enlargement or masses. Genitalia revealed a large, right inguinal hernia with extension into the scrotum. The rectum revealed an absence of sphincter tone. There were no masses and no feces in the ampulla. Neurological examination revealed bilateral absence of deep tendon reflexes in the ankles and the reflexes in the right knee were diminished. There was loss of position sense in the lower extremities bilaterally. No sensory defect and no pathological reflexes were elicited.

Laboratory Data: Hemoglobin 11.2 gm%, white blood count, 9,450/mm^3 with 88% polys, 11% lymphs, and 1% mono. Peripheral smear showed normocytic, normochromic erthrocytes with no increase in polychromasia. Platelets appeared to be adequate. There were slight toxic changes present in the neutrophils and rare plasma cells were noted. BUN 75 mg%, creatinine 3.5 mg%, fasting blood sugar 225 mg%, 2-hour post prandial blood sugar 111 mg%. Serum sodium 134 mEq/1, potassium 4

mEq/1, chlorides 102, CO_2 25 mEq/1. Total serum bilirubin 0.5 mg%, alkaline phosphatase 15 KA units. Total proteins 6 gm% with 2.2 gm% albumin. SGOT 40 KU. Prothrombin concentration 55%.

Chest x-ray revealed cardiomegaly of moderate degree with a perihilar alveolar infiltrate bilaterally but without pleural effusion. An infusion intravenous pyelogram revealed obstructive uropathy on the right with obstruction at the uretero-vesicle junction. The left kidney findings were compatible with infection with questionable obstruction at the left uretero-vesicle junction. There was a large intrinsic filling defect in the bladder. Cystogram revealed a trabeculated bladder with thickened wall and irregular contour along its right superior border. There was no evidence of ureteral reflux. The bladder emptied well for the post-drainage films. A barium enema showed redundancy of the sigmoid colon and an upper GI series showed diverticulum in the second portion of the duodenum. A soft tissue mass was visible in the middle portion of the lower abdomen but was thought to represent a distended urinary bladder. An electrocardiogram showed several premature atrial contractions, premature ventricular contractions, and an isolated run of ventricular tachycardia. The EKG was of low voltage. There was poor progression of R waves in the precordial leads which were suspicious of an old anteroseptal infarction.

Cystoscopy revealed an irritated, trabeculated bladder with hemorrhagic cystitis and multiple diverticula. The patient was placed on Foley catheter drainage and his BUN and creatinine fell to 17 mg% and 1.2 mg% respectively by 5-17-67. A urine colony count revealed E. coli, over 1,000,000/ml, sensitive to ampicillin, with which the patient was treated. On 4-19-67, the patient developed physical signs and radiographic evidence of pleural effusion and thoracentesis was performed which revealed 700 cc of clear, thin fluid which was sent to the laboratory for cell blocks which were normal. A pleural biopsy was done at the same time which was interpreted as being normal. Stools were negative for ova, parasites and blood. Sigmoidoscopic examination was normal. Biopsy of the rectal mucosa for amyloid was normal. Serum VDRL was reactive 1:2 and a FTA was also reactive. A lumbar puncture revealed an opening pressure of 220. The fluid was clear and colorless with a protein content of 64 mg%, no red cells, and 8 lymphocytes. VDRL reactive 1:8. The patient was placed on 1.2 million units of procaine penicillin b.i.d. intramuscularly for a total of 30 million units over a two week period. His ampicillin was discontinued at the time the procaine penicillin was instituted. The patient's edema and cardiac irregularity persisted. The SGOT which had been normal on admission was noted to be elevated to 675 KU on 4-22-67 and rose to a maximum of 860 KU on 4-25-67. Thereafter it declined and by 5-6-67 had returned to normal where it remained. An electrocardiogram on 5-8-67 was similar to the tracing of 4-21. Electrocardiogram on 5-19-67 showed a sinus tachycardia with occasional atrial premature contractions and runs of nodal rhythm but was otherwise unchanged. An attempt was made to slow the patient's rate with digitalis but with little effect. The anasarca and pleural effusion persisted but appeared to diminish with bedrest and adequate nutrition but his hypoalbuminemia persisted. It was felt the patient was making progress towards recovery when he was found without respirations or pulse on 5-23-67.

An autopsy was obtained.

Clinical Discussion

Dr. John P. Utz: This is a retired seaman who had lived as a recluse. Immediately one would wonder what his diet has been during this period of time. It was probably good, since we find out later on that he was obese, but I would like to know specifically what his protein intake was and also his intake

of vitamins. In the brief history was: dyspnea and some easy fatigue such that he went to bed with the illness. He had urinary and fecal incontinence which, combined with the findings on physical examination, lead us directly to one of his diagnoses. The system review and past history are not contributory. We have already remarked about his being obese so he is malnourished in some limited sense if he is malnourished at all.

He has left internal strabismus. Pupils did not react to light or accommodation. These are not true Argyll-Robertson pupils but there is no question in central nervous system syphilis that both accommodation and light reflex can be lost. He has an absence of sphincter tone, bilateral absence of deep tendon reflexes in the ankles and the reflexes in the right knee were diminished. There was loss of position sense in the lower extremities. All of this is quite in keeping with tabes dorsalis. With regard to his primary symptom which is anasarca, the physical findings are a great help in what they DON'T tell us. He does not have hepatomegaly and the spleen is not enlarged. There is no venous dilatation over the skin of his abdomen. Hemorrhoids are not present. There are no spider angiomata and there is no jaundice. I think all of this data rules out advanced hepatic disease—cirrhosis—as a diagnosis. His BUN is elevated as is his creatinine. The other laboratory findings are not particularly helpful; however, his serum bilirubin is normal. His SGOT at the beginning of his hospital course was normal. His alkaline phosphatase is minimally elevated and I don't think we need to pay too much attention to it. His albumin is 2.2 gms% which is significantly low. One can find various figures at which edema begins to appear in patients and this is in the range where it can be seen. There is one conspicuous omission from the laboratory data —and that is the urinalysis. This would have been helpful.

We come now to the chest films. Dr. Cassada?

Dr. William J. Cassada, Jr.: The initial chest film taken on this patient showed an arteriosclerotic aorta, cardiomegaly and in the right lung base, peripheral septal lines. There is thickening of the distance between the gas-containing gastric fundus and the apparent left hemi-diaphragm. This would suggest pleural effusion in that region. There was hilar vascular congestion. A film made one day later shows bilateral pleural effusion. The right hemi-diaphragm has an abnormal apex. This is not the usual contour of the hemi-diaphragm and suggests that there is effusion in the right lung base as well. The decubitus films taken in right and left lateral decubitus position reveal a shift of fluid levels bilaterally. A film made almost a month later shows persistent cardiomegaly, arteriosclerotic aortic tortuosity, hilar and pulmonary vascular congestion and persistent pleural effusion. An IVP shows a partial obstruction of the right ureter distally with proximal dilatation. The cystogram shows a conical shape and heavily trabeculated, contracted urinary bladder compatible with chronic infection.

Question from Audience: Was there any other organ enlargement identifiable on the x-rays?

Dr. Cassada: I think there was some hepatomegaly.

Dr. Utz: The description of the intravenous pyelogram, along with the fact that his BUN and creatinine fell to normal levels with drainage, suggests that he had post renal azotemia. He may very well have some degree of pyelonephritis. From the protocol he did indeed have a urine which had over a million colonies of E. coli and thus, he does have an acute urinary tract infection. He received ampicillin for this. The pleural effusion which was demonstrated on x-rays was further confirmed by the removal of 700 cc of clear, thin fluid. We don't know the specific gravity of this fluid and we don't know the protein content but I think it was probably an effusion rath-

er than an exudate and is in keeping with the anasarca which he had.

A biopsy of the rectal mucosa for amyloid was normal.

We realize then that he has serious trouble in terms of his VDRL being reactive and furthermore he has an abnormal spinal fluid with an elevated protein and a VDRL which is positive. Either of these alone is enough to make a diagnosis of central nervous system syphilis. He then was placed on procaine penicillin instead of ampicillin and was treated with adequate dosage for his syphilis. It is of interest that digitalis did not seem to affect his degree of failure or edema. It did not seem to slow his heart particularly. Then one morning, he is found dead in bed.

Examination of the electrocardiogram demonstrates some premature ventricular contractions. It also shows premature auricular contractions; there is a run of ventricular tachycardia. There is poor development of the R waves over the whole left side of the precordium until V-5 when I see a good R wave. (Fig. 1) A later tracing again shows failure of the R wave. The rhythm is perhaps a little more regular. There is no change in the tracing at the time of his elevated transaminase.

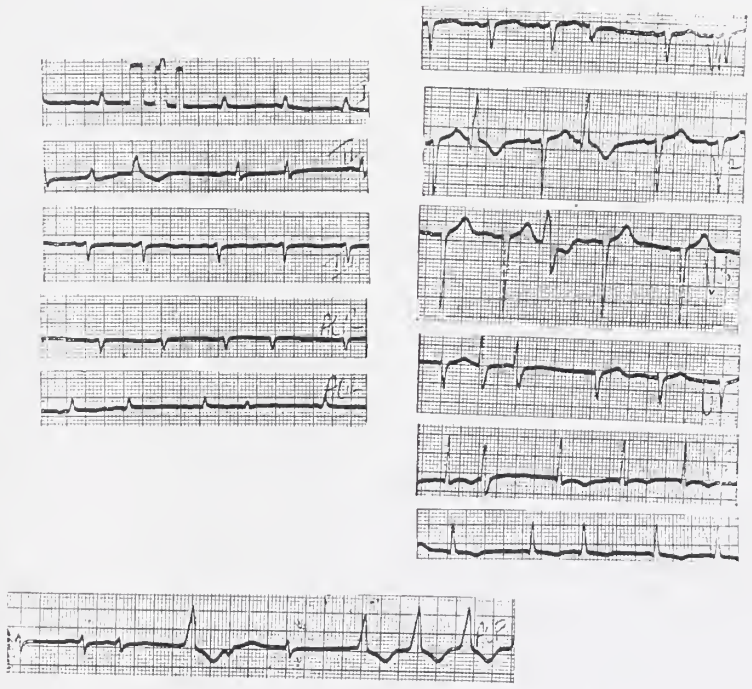


Fig. 1. Electrocardiogram at the time of admission to the hospital.

syphilis. It is very curious to see the rise in his transaminase to 860 units. My explanation for that is that it is probably related to his ampicillin therapy. This occurred early in the course of his illness, probably before his lumbar puncture was done. The amino-benzylo-ring attached to penicillin causes some delayed excretion, delayed metabolism by the liver and you can see a SGOT elevation. There is another possibility, that this could represent a sort of Herxheimer reaction in keeping with the penicillin or ampicillin therapy he had for his

Two diagnoses are quite evident at this point. First of all a urinary tract infection, E. Coli and acute pyelonephritis. Second, central nervous system syphilis. He was treated with ampicillin with good results so that he did not die of a Gram negative bacterial septicemia. In addition to that, he had a good course of penicillin and ampicillin for his syphilis and if he had been allowed to

live long enough I am sure he would have regained some of his interest in life.

The question then comes up as to why did he die. Something else must have gone wrong in this man. We should spend time in discussing what went wrong in addition to what diagnosis we can make with some degree of surety. I believe he had cardiac disease. I think he does not have liver disease. This is a primary cardiac pathology. Of what etiology? In this age group with an abnormal EKG and large heart, I am sure it is arteriosclerotic heart disease as the number one choice. There is no evidence that he had rheumatic valvular disease and he is too old to have congenital lesions so we are left with something more bizarre.

The fact that he is a recluse and that his diet was poor made me consider beriberi heart disease. I remember that my old chief, Chester Keefer, spent a year in the Peiking Union Medical College and he saw enough beriberi to describe it. The other important report on beriberi is from Blankenhorne in Cincinnati and he says that seven things have to be present in a patient in order to make this diagnosis.[1] Of these seven things, our patient has only two. He has an enlarged heart and he has dependent edema. The patient should have an elevated venous pressure which I don't thing is very specific for beriberi. He should have peripheral neuritis which he does although I think it is on another basis. There should be a gross deficiency in his diet for at least three months. We have no idea what his diet was. He is obese and it is a little bit hard to believe in this era that he could indeed have beriberi. No other cause for his heart disease must be in evidence—and we have another cause for it. Lastly, there must be clinical improvement with decrease in heart size on specific therapy alone—which is thiamine. I don't think we have enough evidence to make the diagnosis of beriberi heart disease in this case. The other reason for rejecting it is that the pathologist could not tell if he had it from the microscopic findings, this being a non-specific sort of diagnosis, pathologically.

We might say a word about the hypoalbuminemia which was persistent and of considerable interest. I am intrigued by the fact that this might be nutritional. His vitamin K is low and I presume this returned to normal as there is no subsequent mention of it in the course. He may very well have had poor protein intake. I don't think we can make a diagnosis of Volkmann's protein-losing enteropathy because we don't have sufficient studies for that, for example excretion studies, tagged stool studies, etc.

In coming to the infection I am almost certain he had—and that is syphilis—is this luetic heart disease? It is disturbing that he doesn't have a dilated aorta. He doesn't have aortic diastolic murmur. It is hard to believe that he has luetic aortitis. If this is heart disease due to syphilis, what is the pathogenesis of this patient? There are two possibilities. Both are extraordinarily rare. First: luetic involvement of the coronary arteries per se—by itself. This occasionally happens without an enlarged aorta and without aortic insufficiency.

The second possibility is a gumma of the heart. Gumma is a granulomatous process due to the active infection. Surprisingly little has been written about this possibility in the last few years. A paper by Sohval in 1935 describes 97 cases collected through the literature plus two of his own.[2] Of these 97, 90 were single and seven diffuse gummas. The lesions involved the base of the left ventricle and the interventricular septum and interfered with cardiac conduction. They may occlude the valves rarely, they may involve papillary muscle with rupture of the muscle and they may produce ventricular aneurysm. We have no evidence of any of these events either in terms of a murmur, valvular aneurysm, etc. There is no history at any time of angina or chest pain or myocardial infarction. It is hard to believe that he has a coronary ostia involved. There is no clinical evidence to support this.

In summary, I think he has chronic pyelonephritis. He had recent acute pyelonephritis. He has syphilis involving his central nervous system. I think he has cardiac disease which is luetic in nature. I think his death, unobserved, must have been due to a cardiac arrhythmia occurring as a result of the luetic heart disease and if I had to pick between two extraordinary, rare manifestations of gumma or solitary involvement of the coronary arteries, I suspect I would say that it was the coronary arteries themselves involved on the basis of his old EKG and past evidence of infarction.

Pathological Discussion

Dr. Margaret Jones: At autopsy Dr. Chitale confirmed the clinical impression of massive edema. In the pleural cavities there was 1500 ml of fluid. A similar quantity was encountered in the peritoneal cavity. The heart weighed 600 gm and both chambers were dilated as well as hypertrophied. There was no obvious occlusion of the coronary ostia or arteries. There were multiple small pulmonary emboli in both lungs as well as the moderate amount of edema fluid. There was acute and chronic congestion of the liver and the spleen. There was a small ulcer in the second part of the duodenum which was responsible for the gastrointestinal bleeding observed during the patient's course. The bladder was hypertrophied and the ureters and pelves of the kidneys were dilated. Microscopically, many of the medium sized vessels of the lungs contained emboli which were adherent to the vessel wall and were of a variety of ages. The patient probably died as the result of a shower of these. The adjacent alveoli contained a modest amount of edema fluid. There were numbers of hemosiderin-laden macrophages within the alveolae. Additional evidence of severe congestive heart failure was found in the liver where there was marked centrilobular necrosis. The patient's elevated SGOT and abnormal liver function studies are on the basis of this centrilobular necrosis.

We have abundant evidence of congestive heart failure. What was the etiology of the patient's cardiac disease? There were a few non-occlusive atheromatous plaques in the coronary arteries. There was no evidence of the lesions associated with syphilis such as gumma formation, aortic valve or root disease. What was the reason for this enlarged and failing heart? Between each of the myocardial fibers was a cobweb of fibriles separating them by some distance. A special stain for collagen shows that some of this material is indeed fibrous tissue. Overall a diffuse fibrosis was present. However, the remainder of this material did not stain and is, therefore, massive interstitial edema. There is also a focal infiltrate of mononuclear cells. These were mainly scattered with a few foci which were found adjacent to a vessel. This sort of lesion calls to mind myocarditis. Involvement of the heart by syphilis producing a diffuse myocarditis is vanishingly rare. Occasionally this is seen when gumma formation is present. This, therefore, is interpreted as a relatively non-specific finding. Of more interest were the individual myocardial fiber degenerative changes with loss of cross-striation and separation of the fibers by vacuolated material. The nuclei were small a pyknotic in these degenerated cells and the compensatory hypertrophy was present.

In summary, there were several non-specific findings in the myocardium; primary degeneration of the myocardial fibers, interstitial edema and a scattered mononuclear infiltrate. These have been encountered in many of the cardiomyopathies, particularly the one associated with alcoholism and in the myocardiopathy associated with thiamine deficiency. In this patient a history of excessive alcohol intake was obtained and evidence of nutritional deficiency was obvious. Electron microscopy studies of the myocardium which might have helped to resolve this problem were not done. We do know that the measurement of cardiac output in patients with alcoholic heart disease has been

uniformly low. In this patient a circulation time, which was recorded, was not prolonged and at that time the venous pressure was elevated. The cardiomyopathy is, therefore, most compatible with that of thiamine deficiency.

I would like to review Blankenhorne's criteria again because I think that this patient does fulfill most of these criteria. We certainly have no evidence for any other etiology and whether or not he was on a thiamine deficient diet for three months is not clear but he certainly had a dietary deficiency. I would like to suggest that his clouded mentation might have been due to a thiamine deficiency. He had an enlarged heart, dependent edema, and in addition to the elevated venous pressure had a circulation time which was not prolonged. I think this patient's clinical status, history and pathology are consistent with the diagnosis of beriberi heart disease. Having presented a solution for the patient's final illness, what were the lesions that were responsible for his neurological signs and symptoms.

The diagnosis of central nervous system syphilis was established by positive VDRL in his spinal fluid. Whether his pupillary abnormalities and loss of position sense was due to tabes was really not clear from the history. His altered mentation was perhaps more characteristic of paresis and we do know that these two rarely co-exist. In this patient, the neurological disorder was due to diffuse involvement of the meninges and the small vessels which is characteristic of meningovascular syphilis.

The examination of the external surface of the brain was most unrewarding. Most patients who are 64 years old have leptomeninges which are quite thickened and clouded in the parasagittal region and this patient's were relatively transparent. There was a modest amount of atrophy. However, over the base of the brain around the chiasm, the meninges were distinctly thickened. On coronal sections a small infarction was noted in the region of the putamen and internal capsule in the frontal region. The latter lesions, as most of the others, were due to a diffuse vasculitis involving veins and the small arteries. Most of the infiltrate was mononuclear cell and lymphocytic. The infarction was old as manifested by its cystic nature and the accumulation of lipid-laden macrophages. In the mid-brain chronic granular ependymitis another hallmark of meningovascular syphilis was found. The area of the Edinger-Westphal nucleus and the third nerve were the site of a vasculitis.

This ependymitis is an active lesion with infiltration of mononuclear cells and lymphocytes destroying the ependymal lining. (Fig. 2) The gliosis and associated inflammatory infiltrate extended for some distance beyond the ependyma. Each of the cranial nerves with the exception of the 7th and 8th was the site of diffuse infiltration with mononuclear cells. These were most pronounced around the vasonervorum and caused a demyelination. The meninges around the nerves are also infiltrated with mononuclear cells. This type of lesion is responsible for the occasional unilateral cranial nerve deficit that is observed in patients with a history of syphilis. Why this patient had no more signs than he had is a puzzle to me because nearly all the cranial nerves were involved by such extensive lesions. The most marked lesions were noted in the lumbar region of the spinal cord. There was immense thickening of the meninges at this level. In addition, there was pallor of the fasciculus gracilis, the dorsal columns and the dorsal roots are extensively demyelinated. There was gliosis and vasculitis which extended into the anterior horn. In the dorsal root some of the small arteries show a healed vasculitis and immense medial thickening. Demyelination is also present. These dorsal root lesions, or the lesions in the dorsal column could have been responsible for his loss of position sense described clinically. In the substance of the cord itself, many of the small vessels showed

a vasculitis. There was widespread neuronal loss particularly in the lower lumbar region.

Merritt and Moore have suggested that the single location where one lesion can cause both a constricted pupil and loss of the light reflexes is in the midbrain.[3] A section of midbrain showed a tremendous amount of ependymitis and the associated gliosis and vasculitis extending into the tegmental region of the midbrain. Through this region the descending hypothalmic-sympathetic fibers go and interruption of these at any point will cause myosis. The pupil can no longer dilate when the fibers are interrupted because of the unopposed effect of the parasympathetics. In addition, the fibers coming back from the optic chiasm cross this region. This carries the light reflex to the Edinger Westphal nucleus and again a single lesion here will cause loss of the light reflex and a constricted pupil. Whether this patient actually had this pupillary abnormality is really not clear from the chart. I suspect that it might have been difficult for the examiner to observe the loss of accommodation when the pupil was so small.

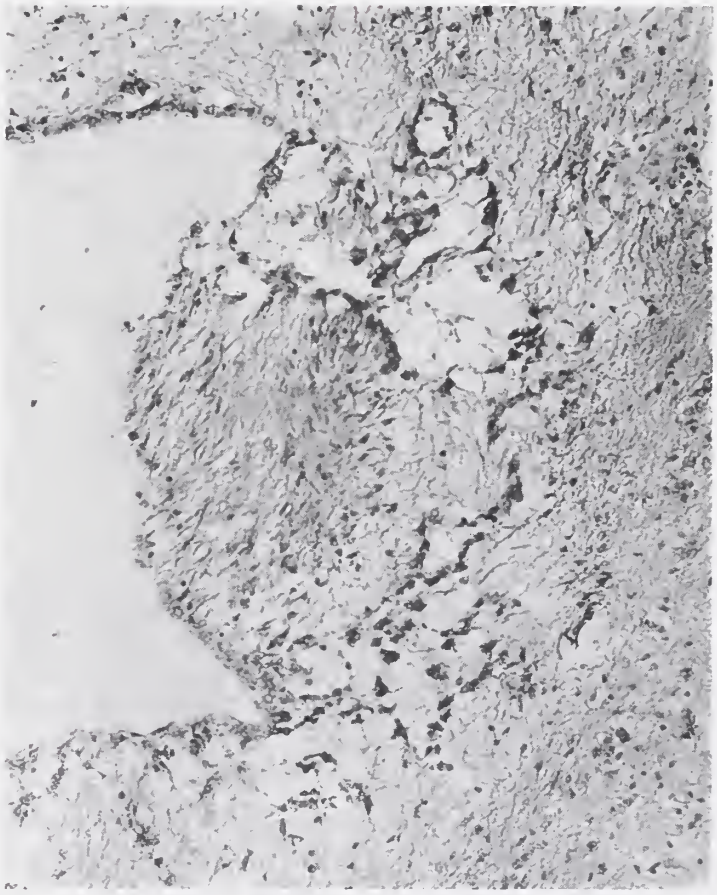


Fig. 2. Section shows ependymitis surrounding aqueduct of third ventricle. H&E x 250.

The urinary bladder has a dual nerve supply—parasympathetic and sympathetic—and lesion in the lower lumbar cord, the site of the sympathetic supply have been described in syphilis. When the detrusor muscle is denervated it hypertrophies to overcome the sphincter. That is the reason for the bladder hypertrophy. Relative obstruction obtains in this situation and so the hydronephrosis, hydroureter and infection ensue.

In summary, this is a patient, a merchant seaman with meningovascular syphilis whose signs—neurological signs end symptoms—were related to his vasculitis and chronic meningitis. We had a cardiomyopathy which

was probably on the basis of thiamine deficiency.

Final Anatomical Diagnosis

1. *Central nervous system syphilis, meningovascular type.*
2. *Anasarca severe with hypoalbuminemia.*
3. *Cardiac hypertrophy and dilatation, etiology? (Thiamine deficiency vs. arteriosclerosis)*

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Illustrations prepared through the facilities of the Department of Visual Education, Mr. Melvin Shaffer, Director.

No reprints available.

Nixon on Drug Abuse

President Nixon has delivered to the Congress his special message on drug abuse. Included in the message was a ten-point program aimed at stemming the growing menace of narcotic addiction and drug abuse. The President recommended that: the Congress enact a comprehensive legislative program to more effectively meet the narcotics and dangerous drug problems at the federal level; the Department of Justice develop a model State Narcotic and Dangerous Drug Act and make this model law available to the 50 state governments; the Secretary of State and Attorney General explore new avenues of cooperation with foreign governments to stop the production and unlawful importation of marihuana and similar contraband; the Department of the Treasury, through the Bureau of Customs, initiate a major new effort to "guard the nation's borders and ports against the growing volume of narcotics from abroad"; and that the Attorney General create within the Bureau of Narcotics and Dangerous Drugs special investigative units which will have the capacity to move into any area of the country in which major criminal enterprises are engaged in narcotics traffic.

Cancer Trends....

JAMES RAFFA, M.D.
SAUL KAY, M.D.
ARNOLD SALZBERG, M.D.

Edited by—

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Large Breast Tumors of Early Adolescence

During the past six years, four female Negro patients under the age of 13, with large breast masses have been seen on the Pediatric Surgical Service at the Medical College of Virginia Hospitals. Three of these lesions were diagnosed histologically as fibroadenoma, and the fourth was classified as cystosarcoma phylloides. These two lesions need separation since the former is quite benign, while the latter can undergo malignant change, as documented recently in a prepubertal 12 year old female.[3]

It would seem that large fibro-epithelial breast tumors in the late pediatric age group are related to excessive estrogenic stimulation in the absence of estrogen antagonists, such as progesterone.[1,6,15] The racial predominance in our small group is not verified in reviewing larger series of patients with cystosarcoma phylloides and fibroadenoma in which the incidence among Negro female varies from less than 10, to over 19%.[5,14]

At the present time, there are nine reported cases of cystosarcoma phylloides in children under thirteen years of age,[2,3,4,6,8,10,11,15] and this would represent about 2.5% of all fibro-epithelial tumors in this age group.[5] Lester and Stout noted two patients between 12 and 13 years of age in their review of 58 pediatric cases,[5] while Treves and Sunderland could find no instances of cystosarcoma phylloides under 15 years of age in their review of 77 breast tumors in the pediatric age group.[14]

Muller, in 1838, established the pathologic nature of cystosarcoma phylloides as a definite breast entity.[14] Confusion between cystosarcoma phylloides and giant fibroadenoma is heightened by the use of over thirty synonyms and both are used interchangeably. For instance, McDonald and Harrington defined cystosarcoma phylloides as a benign fibroadenoma involving 80% or more of the breast, and weighing 500 gms. or more, but they did not include histologic criteria.[8] Cystosarcoma phylloides does differ from simple fibroadenoma by its extremely marked stromal proliferation with mitotic activity of the fibrous elements. Criteria for the diagnosis of malignancy in this lesion include bizarre nuclear structures, abnormal mitotic figures, invasion of continguous structures, and the occurrence of the uncommon distant metastasis.[4] There is general agreement that malignant degeneration of cystosarcoma phylloides is always a function of the stromal elements, and does not occur in the ductal or glandular portions of the tumor.

The cystosarcomatous lesion usually presents as a large unilateral breast mass with a history of one to six months. The size has varied from two to twenty-eight cms., and is bilateral in as many as 25% of the patients.[5,8] The patient, or the mother, usually reports a slow, steady growth of the tumor,

From the Division of Pediatric Surgery, Department of Surgery and Division of Surgical Pathology, Department of Pathology, Medical College of Virginia.

Sponsored by the Professional Education Committee, Virginia Division, American Cancer Society.

with perhaps a rapid spurt just prior to consultation. Nipple discharge, skin retraction, ulceration and axillary adenopathy are quite uncommon. Massive tumors may cause ischemic pressure necrosis of overlying skin and axillary nodes may be enlarged because of secondary infection. With more massive lesions, venous stasis and dilatation are seen. Pain and discomfort have been reported with large tumors. It is of some interest that cystosarcoma phylloides has not been reported in adolescent males.[13]

On physical examination, the breast tumor is freely movable without attachment to skin or underlying fascia. A rubbery resiliency and lobulation may be noted. Axillary nodes and tumor fluctuation are uncommon. The differential diagnosis must include virginal hypertrophy and simple large fibroadenoma in this age group.[9,15] Carcinoma of the breast here is virtually non-existent. The preoperative evaluation of course, must include an X-ray of the chest since the lungs are the most common site of the hematogenous spread of malignant cystosarcoma phylloides.

Although McDonald and Harrington originally recommended simple mastectomy as the treatment of choice for cystosarcoma phylloides,[8] Wulsin's suggestion of simple complete excision or enucleation in the adolescent appears more reasonable.[15] A frozen section at the time of operation is necessary in order to rule out malignancy. This latter problem is managed by simple mastectomy in most instances since regional lymph node involvement is rare. While distant metastasis has not been reported in children under 15 years of age, local recurrence of cystosarcoma phylloides following inadequate excision may occur, and must again be managed by wide simple excision of the tumor.

In summary, large breast tumors in the pediatric age group consist mainly of cystosarcoma phylloides and giant fibroadenoma. The differentiation between these lesions is emphasized because of the malignant potential of the former, while the latter is uniformly benign.

Comment

This presentation by Drs. Raffa, Kay and Salzberg is a departure from our usual approach in this column since the subject discussed is rare in the experience of all of us. The finding of a breast mass in a patient in the pediatric age group is upsetting to parents and physicians alike, and we thought this discussion in depth would be helpful to all of us.

Dr. Salzberg and his colleagues have made the statement that carcinoma of the breast is virtually nonexistent in the pediatric age group. Although this is actually true, it should be stressed that carcinoma can occur in younger patients than is generally realized. There are a number of reports of a large series of breast cancer patients with .01 to .08% of cancers developing in young girls less than 20 years of age. Although rare, there are even documented reports of breast cancer occurring in infancy. Although carcinoma is a remote possibility, this is an additional reason for histologic evaluation of any unusual breast tumors that do appear in the pediatric age group.

The authors have focused on the most likely diagnoses to be considered when a mass is palpable in the breast of a youngster. On the other hand, it should also be stressed that cysts, lipomas, hemangiomas, lymphangiomas and other benign lesions may also involve the breast and thereby enter into the differential diagnosis. However, one also must caution against premature excision of a unilateral breast enlargement as has occurred on occasion, when the physician has mistaken the early unilateral development of normal breast tissues as an abnormal finding. This would be tragic.

Cystosarcoma phylloides is certainly a "malignant sounding" term. However, the fact that this lesion usually follows a benign course in 75 to 80% of patients should be stressed so that these patients are not over-

treated in our zeal to eradicate the disease. The authors have correctly pointed out the malignant potential of a small proportion of these lesions, and they have also provided us with a better idea of the potential of this unusual clinical problem.

The Editors

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Self-Employed Physicians Now Insured for Disability Under Social Security

Many self-employed physicians reached an important social security landmark this October. With their earnings covered since 1965, they have now contributed to social security long enough to be insured for disability.

Social security disability benefits can be paid to an insured person under 65 who has a physical or mental impairment so severe as to keep him from doing any substantial work for a year or longer. Payments begin after a waiting period of 6 full calendar months.

Benefits can be as much as $218 a month for a disabled person alone and up to $434.40 a month for a family. Self-employed physicians disabled in the immediate future, however, would probably not yet be eligible for these maximums since their earnings have been covered by social security for a relatively short time. Benefits are figured from a person's average covered earnings over a period of years.

Mental Health . . . .

ALBERTO C. MATA, M.D.

Management of Acute Abdomen in the Mentally Retarded Patient

We wish to present histories of five patients who developed symptomatology of "acute abdomen".

Our mentally retarded patients' tolerance for pain is high, and they do not know how to describe their symptoms. The situation is particularly aggravated by the paucity of signs and symptoms.[1] We have to add that in our patients the problem is further complicated because we have found that many of them ask for a second tray at meal time, and two hours later they have to be taken to the operating room. Most of the time these patients are discovered because the psychiatric aide or the nurse has called the physician's attention to the overly distended abdomen and respiratory stress caused by this distention. The patients do not complain of any other symptoms (such as bowel movement, nausea, gases, etc.). Physical examniation shows the very distended abdomen; and then on palpation, sometimes it can be disclosed that the patient is in pain. The only way to make an accurate diagnosis is by a flat x-ray. It is stated by Mosely[2] that supine position should be used to make an accurate roentgenologic diagnosis of "acute abdomen".

We will now present the five clinical histories:

1. A 39-year-old man, diagnosed as mentally retarded, Down's Syndrome, had been treated for duodenal ulcer. He complained of chest pain, nausea, and vomiting. Compazine was given without any effect. X-ray was done and the chest was negative, but free air in the abdominal cavity was seen. A laparotomy was done and duodenal perforation was found and repaired. The surgeon's opinion was that the perforation happened 12 hours prior to the operation. The patient did well and was sent back to his regular ward where he was closely watched for six months. If he continued with peptic ulcer, gastrectomy would be indicated; however, in 33 percent of these cases, operation is not necessary.

2. A 75-year-old woman, diagnosed as mentally deficient, with psychosis, complained of abdominal pain and vomiting for one day. There was some abdominal distention without rebound, and no tenderness. X-ray of the abdomen showed free air in the cavity, and surgery found rotation of mesentery, volvulus of the right colon, and the cecum was perforated. A right hemicolectomy including the distal portion of the ilium was done, with end-to-end anastomosis of ilium to transverse colon. She was followed with supportive therapy, and the patient recovered very well.

3. A 21-year-old male patient, diagnosed as profoundly mentally retarded, was pale and fainted. Moderate distention of the abdomen was found, and flat x-ray of the abdomen showed acute gastric dilatation. He was treated medically with Levine Tube suction, I.V.'s, and supportive therapy. The only significance was a drop of hemoglobin from 10 to 6 grams in a few hours, without signs of bleeding. G.I. series showed the following findings: In the lateral view, the space between the lesser curvature and the vertebral bodies was enlarged. The duodenal loop was widened, pointing to the possibility of the so-called pancreatic pseudocysts, secondary to acute pancreatitis. The patient had passed a considerable number of mop

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Approved for publication by the Commissioner, Department of Mental Hygiene and Hospitals.

strings. Pancreatic function was evaluated. He recovered.

4. A 63-year-old man, diagnosed as microcephalic, with epilepsy, had an operation for intestinal obstruction a year previously, caused by ingestion of foreign bodies. At surgery, the muscular layers of the colon wall was hypertrophied and looked like a pregnant uterus. At this time, the patient underwent hemicolectomy (left) and transverse colostomy, due to intestinal obstruction caused by massive impaction of foreign material (possibly seeds) in a megasigmoid colon. After the operation, the patient did fine. The rectum was left for future reanastomosis to the transverse colon, if so desired.

5. A 42-year-old man, diagnosed as profoundly retarded, had for three days suffered from diarrhea, fever, and bloody stools. He was treated with Opectate and Neomycin, without success. Some abdominal distention was seen and x-ray showed a dilatation of both intestines. No bowel sounds were present. He was treated in the beginning conservatively while continuing further studies and evaluation. A barium enema showed severe narrowing and irregularity of the sigmoid, and the radiologist suggested two possibilities: (1) Tumor, adenocarcinoma (?), and (2) inflammatory process. The patient was sicker on the fourth day. One day after admission to the acute hospital, a laparotomy was done and the whole left colon was found to be gangrenous. Colostomy and partial colectomy were done and the smell of the fluid found in the peritoneal cavity resembled infection with E. Coli. In this patient the toxic process was too far advanced and consequently he expired five hours after surgery. The autopsy confirmed the clinical and surgical findings: Granuloma of sigmoid, secondary to foreign bodies (wood sticks) and gangrene of the left colon. This last patient was found to have amoeba cysts which was one of the reasons that he developed granuloma.

Comments

We have to say that in all mentally retarded patients, with symptoms of abdominal distention, with or without any other symptomatology, a flat x-ray has to be done, followed by other techniques and surgical intervention as soon as the electrolytes balance has been restored to normal.

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Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Migrant Health

Despite the agricultural engineering advances made in recent years, there are still between 15,000 and 25,000 migrant laborers who enter Virginia each year to manually harvest crops. They bring with them many health problems.

For many years local health departments throughout the State have been aware of these problems and have provided what limited services were available. As a result of the enactment of the Migrant Health Act in 1962, however, the State Department of Health has developed a program designed especially to improve the health of the migrant.

A small grant was made by the United States Public Health Service in the summer of 1963 to allow some preliminary studies of migrant characteristics and needs which would guide the development of a specific program. In the summer of 1964 a grant was received for a Migrant Health Program for the Eastern Shore of Virginia to provide increased nursing supervision in the migrant camps, to increase sanitation services, and to add a mobile health clinic for the provision of direct medical service to migrants.

Local physicians had for many years provided medical care to the migrants with little or no reimbursement for their services but many migrants would not seek medical care except for acute illness or injury. With the use of the clinic in the camps, the migrants were offered the opportunity to avail themselves of these health services while their medical conditions were more readily managed.

The clinic itself was a trailer towed by a pick-up truck. Local physicians and nurses staffed the clinic and a dentist employed full time provided the dental care.

In order to take some of the patient load from the clinic trailer at the busiest sites, a panel truck was purchased and equipped in 1967. Immunizations were done here, and in daytime hours the truck was also used to transport some patients to and from the hospital.

Public health nurses and nursing aides would visit patients in the camp to insure that the advice of the physician and treatments prescribed were followed. Case findings and referrals were equally important activities. This clinic program has continued and the migrant case load has varied. It has averaged between 3,000 and 3,500 per summer, and the majority of these patients have been in the 15 to 44 year age group with almost one-third being children under 15.

Some 500 patients receive dental care each year. Unfortunately most of this is operative with only very little restorative work being possible. The greatest health need observed in the migrants has been that of dental care.

In 1966 funds were made available for hospitalization which would provide approximately two-thirds of the cost of the migrant hospitalization as well as providing some funds for emergency room care. Prior to this time hospitalization usually was for emergency conditions only and much of it still is. Funding for some remedial surgery and/or medical evaluations have been made. In this way, the overall health of the migrant has been improved.

In an effort to provide more effective health services through continuity of care, a referral system has been developed between state and local health departments along the East Coast. Under this system a patient in one area, in need of specific medical care, is referred to the next state. In this way pa-

tients are kept under supervision despite their rapid movement from state to state. Only through such a system can continuous follow-up be assured.

Most of the project-funded services have been limited to the Eastern Shore counties although a limited amount of funds are available for expanded services in other areas. Since the total number of migrants in other counties of the State is relatively small, the local health departments, with some assistance, are able to provide the necessary services.

In addition to providing needed medical services, the State Health Department is interested in the prevention of communicable diseases among migrant laborers, and one of the major obstacles encountered in combating this problem has been that of inadequate housing. It is extremely difficult to prevent the spread of any type of contagious disease where individuals are housed too closely together or where there is inadequate water for bathing. Since many camps are in operation for a period varying from six weeks to three months each year, new construction creates an economic problem. However, over the years the State Health Department has been able to work with the growers in updating their facilities and in the construction of new camps so that at the present time, although many camps are not all that is to be desired, there are fairly adequate facilities available.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Oct. 1969	Oct. 1968	Jan.-Oct. 1969	Jan.-Oct. 1968
Brucellosis	13	7	50	47
Diphtheria	—	—	—	—
Hepatitis	29	103	369	462
Meningitis (Aseptic)	13	9	27	103
Meningococcal Infections	2	3	57	41
Poliomyelitis	—	—	—	—
Rocky Mt. Spotted Fever	6	1	81	41
Rubella	18	4	1,650	591
Rubeola	4	10	680	319
Streptococcal Sore Throat and Scarlet Fever	839	835	11,714	11,391
Tularemia	0	0	4	3
Typhoid	1	1	1	9
Rabies in animals	9	9	336	121
Venereal Disease				
Syphilis	98	98	1,146	1,365
Gonorrhea	1,132	1,077	10,436	8,554
Other	1	0	39	11

Diagnostic Laboratory Medicine . . . .

H. P. DALTON, Ph.D.
M. J. ALLISON, Ph.D.
M. R. ESCOBAR, Ph.D.

Antimicrobial Susceptibility of Common Bacterial Species

At the Medical College of Virginia, the laboratory recording of the percentage of a bacterial species susceptible to a particular antibiotic has been found to be a valuable guide to the attending physician when he is forced to choose empirically an antimicrobial agent. It has also been found that for a variety of reasons, such as susceptibility changes by the microorganisms or the marketing of new therapeutic agents, the pattern of bacterial susceptibility must be constantly reviewed. Primarily for these latter reasons we have recorded the activity of the commonly used antimicrobial drugs against the most frequently isolated organisms for the year 1968.

Table 1 lists the sensitivity pattern of 13 bacterial species for 14 antimicrobial agents. The data were obtained from disc sensitivity studies using Baltimore Biological Laboratories' discs on blood agar plates which had been uniformly spread with the organisms. The bacterial species tested were all freshly isolated and in pure culture. The percentage of strains susceptible to the commonly used antimicrobial agents are similar to the results reported for 1967, 1966, and 1965. However, there is some variation that is of interest and on which some comment should be made.

TABLE 1

ROUTINE CULTURE SENSITIVITY—1968

ORGANISM	Total Strains	Penicillin (10)	Ampicillin (10)	Methicillin (5)	Cephalothin (30)	Erythromycin (2)	Tetracycline (30)	Streptomycin (10)	Chloromycetin (30)	Kanamycin (30)	Neomycin (30)	Polymyxin (50)	Coly-Mycin (10)	Furadantin (100)	Nalidixic Acid (5)
		PERCENT OF STRAINS SENSITIVE													
Staphylococcus epidermidis	965	78	84	93	99	88	61	79	91	60	ND	20	26	84	27
Staphylococcus aureus	612	54	59	99	97	81	65	68	96	75	ND	ND	ND	87	ND
Streptococcus (enteric)	366	98	97	48	92	88	39	15	93	58	ND	ND	ND	94	8
Alpha Streptococcus (non-enteric)	124	96	94	83	98	83	83	66	96	ND	ND	ND	ND	ND	ND
Beta Streptococcus (not group A—not enteric)	27	100	100	100	100	100	96	63	100	ND	ND	ND	ND	ND	ND
Pseudomonas	678	0	0	0	0	0	20	72	37	57	94	91	94	1	1
Herellea vaginicola	155	0	0	0	6	6	67	64	65	97	96	96	96	6	63
Proteus morganii	157	49	60	0	60	0	27	81	89	90	97	2	7	36	60
Proteus mirabilis	492	83	87	0	89	0	31	85	94	93	97	1	4	18	55
Proteus rettgeri	110	41	44	0	56	0	5	78	78	64	100	1	19	7	57
Escherichia	1430	1	54	0	69	1	67	66	84	92	97	81	90	90	87
Aerobacter	615	0	6	0	15	0	41	48	58	76	93	54	60	45	55
Klebsiella	815	0	5	0	66	0	49	47	64	66	75	90	83	62	57
Serratia	308	0	2	0	2	0	7	29	31	71	70	2	10	3	61

ND = Not Done.



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Lomotil acts promptly and directly to lower the excessive intestinal motility of diarrhea. This therapeutic restraint on the overactive bowel allows a normal or more nearly normal reabsorption of water and electrolytes.

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Warnings: Lomotil should be used with caution in patients taking barbiturates and with caution, if not contraindicated, in patients with cirrhosis, advanced liver disease or impaired liver function.

Precautions: Lomotil is a Federally exempt narcotic with theoretically possible addictive potential at high dosage; this is not ordinarily a clinical problem. Use Lomotil with considerable caution in patients receiving addicting drugs. Recommended dosages should not be exceeded, and medication should be kept out of reach of children. Should accidental overdosage occur, signs may include severe respiratory depression, flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia; continuous observation is necessary. The subtherapeutic amount of atropine sulfate is added to discourage deliberate overdosage.

Adverse Reactions: Side effects reported with Lomotil therapy include nausea, sedation, dizziness, vomiting, pruritus, restlessness, abdominal discomfort, headache, angioneurotic edema, giant urticaria, lethargy, anorexia, numbness of the extremities, atropine effects, swelling of the gums, euphoria, depression and malaise. Respiratory depression and coma may occur with overdosage.

Dosage: The recommended initial daily dosages, given in divided doses until diarrhea is controlled, are as follows:

Children:	*Total Daily Dosage*
3-6 mo.	½ tsp.* t.i.d. (3 mg.)
6-12 mo	½ tsp. q.i.d. (4 mg.)
1-2 yr.	½ tsp. 5 times daily (5 mg.)
2-5 yr.	1 tsp. t.i.d. (6 mg.)
5-8 yr.	1 tsp. q.i.d. (8 mg.)
8-12 yr	1 tsp. 5 times daily (10 mg.)
Adults:	2 tsp. 5 times daily (20 mg.) or 2 tablets q.i.d.

*Based on 4 cc. per teaspoonful.

Maintenance dosage may be as low as one-fourth the initial daily dosage.

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There are two new groups included in the table, Herellea and Serratia. They have been added due to their increased incidence of isolation and also because there is a good possibility that isolates of these groups will be resistant to many of the widely used antimicrobial agents. The genus Proteus has been broken down into species in order to show the relatively greater sensitivity of *P. mirabilis* to antimicrobial agents when compared to the other two Proteus species commonly isolated. *Proteus vulgaris* was not included in the table as it was only infrequently isolated during the period under study. The gram-negative bacteria, in general, continue to show variable sensitivity to drugs and continue to be the predominant etiological agents associated with hospital sepsis.

One organism, Beta hemolytic Streptococcus Lancefield's group A, has been deleted from the table since our results mirror those at the national level; that is, all Lancefield's group A Streptococcus are sensitive to penicillin. This is also true for *Diplococcus pneumonia,* which is always sensitive *in vitro* to this antibiotic. It should be noted that while 100% of the strains (27) of Beta Streptococcus, not group A or enteric, were sensitive to penicillin, it is not unusual to isolate strains which are resistant to this drug. The reason for this finding may be that only a small number of isolates were included in the study.

Division of Clinical Pathology
Medical College of Virginia
Health Sciences Division of
Virginia Commonwealth University
Richmond, Virginia

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(Ad in Virginia Medical Monthly, July 1890)

The Medical Society of Virginia . . . .

Minutes of the Council

A meeting of the Council of The Medical Society was held on Thursday, October 16, at The Cavalier, Virginia Beach.

Members Present: Dr. F. Ashton Carmines, Dr. William Grossmann, Dr. Thomas W. Murrell, Jr., Dr. Michael A. Puzak, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. W. Callier Salley, Dr. Thomas S. Edwards, Dr. Raymond S. Brown, Dr. William S. Hotchkiss, Dr. William R. Hill, Dr. George J. Carroll, Dr. F. H. McGovern, Dr. John A. Martin, Dr. James C. Respess, Dr. W. D. Liddle, Dr. Carl E. Stark, and Dr. Carl P. Parker, Jr.

Others Present: Dr. Robert L. A. Keeley, Second Vice-President, Dr. James M. Peery, Third Vice-President, Dr. W. Linwood Ball, AMA Delegate, Dr. Allen Barker, AMA Delegate, Dr. Kinloch Nelson, Dean, Medical College of Virginia, Dr. Russell M. Cox, Secretary-Treasurer, Virginia Board of Medical Examiners and Mr. Chad P. Combs, Department of Field Service, American Medical Association.

Financial Report and Budget

Dr. Michael A. Puzak, Chairman of the Finance Committee, presented a proposed budget for fiscal 1969-70. The budget was approved as presented and referred to the House of Delegates for consideration later in the day.

Dr. Puzak reported that although the Society had enjoyed a good year financially, it had reached that point where a balanced budget was almost out of the question. Consequently, the Society must either increase dues or find other sources of income. It was agreed to discuss the matter of dues further after considering a report of the Special Committee studying the future mission of the Society.

Public Relations

As a follow through on Council's action of September 14, a Special Committee Studying the Future Mission of The Medical Society of Virginia met with Dr. Carmines and representatives of the Robert Kline Agency. Dr. McLemore Birdsong and Dr. Richard Palmer, members of that Special Committee, reported the Committee's findings and recommendations. It was the feeling of the Committee that the medical profession in Virginia is in need of an improved public relations program—one carried out by professionals in the field.

The Committee recognized that the cost of such a program is quite high and recommended that such funds as might be necessary to obtain better public relations be made available.

During the discussion it was brought out that no other state medical societies in this general area employ outside public relations counsel at this time. The question was raised as to whether the Society should seriously consider employment of a full time staff man whose principle area of activity would be public relations.

A motion was introduced by Dr. Hotchkiss directing that no professional public relations firm be employed at this time and that other methods of meeting the Society's public relations needs be explored. The motion was seconded.

Following further discussion during which it was suggested that a survey of our overall public relations situation be conducted before a final decision is made, the motion by Dr. Hotchkiss was adopted.

Council then directed its attention to the matter of obtaining additional income. It was emphasized that the proposed budget for 1969-70 calls for deficit financing in the amount of $13,000. Further brought out was the fact that the Society's current dues are the lowest in the nation.

Dr. Stark then moved that dues for those active members licensed to practice five years or more be increased from $40.00 to $60.00. The motion was seconded and adopted.

There followed more discussion concerning the public relations matter and *Dr. Murrell moved to rescind the action on Dr. Hotchkiss's motion which rejected the hiring of a professional public relations firm at this time. The motion was seconded and carried.*

A follow-up motion to refer the entire matter back to the Committee studying the future mission of the Society for its further consideration was seconded and adopted.

Society Correspondence

Citing a letter to Governor Godwin as an example, Dr. Respess expressed the opinion that care should be taken to make sure that matters possessing

far-reaching implications are discussed by Council before becoming subjects of correspondence. He considered this particularly important in those instances where comments might be interpreted as representing official Society policy.

Disadvantaged Students

Dr. Respess acquainted Council with an admission screening program recently approved by the faculty of the University of Virginia School of Medicine. The program is set up to identify disadvantaged individuals in Virginia who possess the ability to perform successfully in medical school. This might well include individuals who are unable to meet the usual criteria for admission.

Congressional Meeting

It has been suggested that a meeting be arranged as soon as possible between Virginia's Congressional delegation, representatives of The Medical Society of Virginia, our two medical schools, State Department of Health and perhaps other interested groups. Such a meeting is of particular importance to the medical schools since there are indications that the Federal Government is on the verge of reducing its financial support—at a time when these schools are being urged to do everything possible to increase the size of their classes.

Dr. Nelson expressed the hope that such a meeting could be held in Washington just as soon as possible and that our special problems and needs could be presented in an effective manner at that time. He stated that other state societies have sponsored such meetings and a great deal of good has been accomplished.

It was moved that Dr. Grossmann appoint a special committee to arrange such a meeting, recommend an agenda, and determine who should be invited to attend. The committee will present its report to Council on December 10. The motion was seconded and adopted.

Physicians' Assistants

Dr. Cox reported that he had met earlier in the day with Dr. Dolan and several other members of the Committee on Medical Service. The meeting was held as a result of a suggestion made by Council on September 14.

Dr. Dolan stated that the physician's assistant poses a definite problem but that definitive action cannot be recommended at this particular time. A problem of this magnitude deserves additional study before a definite decision on licensure can be made.

Dr. Murrell expressed the opinion that the impending survey on delivery of health services should provide information of value before the 1972 General Assembly convenes.

There was general agreement that physicians' assistants should very definitely be under the direct supervision of a physician, and *a motion was introduced which would remind the membership that a physician is liable for the actions of such assistants. The motion was seconded and adopted.*

VaMPAC

Council has the responsibility each year of electing a Board of Directors for the Virginia Medical Political Action Committee. A motion to elect the following nominees was seconded and adopted:

District Chairmen

1st: William B. Brown, M.D., Gloucester
2nd: Fred T. Givens, Jr., M.D., Norfolk
3rd: Henry S. Spencer, M.D., Richmond
4th: A. Epes Harris, Jr., M.D., Blackstone
5th: Girard V. Thompson, Sr., M.D., Chatham
6th: Echols A. Hansbarger, Jr., M.D., Lynchburg
7th: Dennis P. McCarty, M.D., Front Royal
8th: Ira Godwin, M.D., Fairfax
9th: Charles W. Richardson, M.D., Marion
10th: Michael A. Puzak, M.D., Arlington

Members-At-Large

1st: Richard F. Clark, M.D., Hampton
2nd: Arthur A. Kirk, M.D., Portsmouth
5th: Baxter H. Byerly, M.D., Danville
5th: Thomas H. Holland, Pharmacist, Danville
6th: Alexander McCausland, M.D., Roanoke
8th: Alvin E. Conner, M.D., Manassas
9th: Cecil C. Hatfield, M.D., Saltville
10th: Joseph M. Kline, D.D.S., Arlington

Student Medical Organizations

Dr. Murrell reported on the work of his special committee which is looking into the overall student medical organization situation. His committee has met with representatives of the Student AMA Chapter at the Medical College of Virginia and Dr. Murrell had some very interesting observations. Students seem genuinely concerned with matters pertaining to the delivery of health services—particularly the

quality of care received by different segments of our society. Students are asking many questions and are looking to the private sector for their answers.

Mention was made of the fact that The Medical Society of Virginia made a financial contribution to the Student AMA Chapter of the Medical College of Virginia last year. Dr. Murrell expressed the hope that this financial assistance could be continued and that the Society would seek to develop a close working relationship with SAMA.

Hearing Aid Dealers

As a follow-up on Council's action on September 14, members of the Legislative Committee have been contacted concerning proposed legislation having to do with the licensing of hearing aid dealers and fitters. The legislation is designed essentially to protect the consumer by improving the overall performance of hearing aid fitters and the marketing of hearing aids. The bill would also regulate the activities of dealers and establish minimum qualification standards and define the scope of their operations. The bill would permit no encroachment where medical practice is concerned.

A motion was introduced which would refer the proposed legislation to the House with no recommendation. The motion was seconded and carried.

Preventable Blindness

During its meeting on September 14, Council referred to the Committee on Conservation of Sight a request that the Society seek enactment of legislation designed to reduce the incidence of preventable blindness. The legislation, among other things, would recognize and clearly define qualifications and responsibilities of ophthalmologists and optometrists in their special fields as applied to health care of the public. It was the hope of the Committee on Conservation of Sight that Council could include a recommendation of endorsement in its supplemental report to the House.

There was some doubt that the legislation would be seriously considered by the General Assembly in its present form. The thought was expressed that it needed very careful review and considerable revision before any definite action was taken. *A motion to defer action was seconded and carried.* (Dr. Liddle recorded a negative vote.)

Professional Associations and Retirement

Council was advised that the Insurance Committee had given a great deal of consideration to retirement programs designed for those physicians who have formed professional associations. Although the Society has a plan which qualifies under Keogh legislation, no master plan is available for members of professional associations.

Consequently, it was the Insurance Committee's recommendation that The Medical Society of Virginia authorize the Trustees of the Society's Retirement Plan Trust to amend the said plan and trust to allow participation by members who practice as members of professional associations. This amendment to the existing plan and trust would enable the professional association member to procure all benefits allowed professional associations under current tax law—including pension, profit sharing, insurance, major-medical and hospitalization programs.

Dr. Hill moved that Council approve the Committee's recommendation. The motion was seconded and adopted.

Blue Cross-Blue Shield

The Insurance Committee, meeting on October 15, recommended that The Medical Society of Virginia sponsor a Blue Cross-Blue Shield Plan for members and their employees. The plan would offer both basic Blue Cross-Blue Shield coverage as well as major medical coverage. It was learned that many physicians over the State had requested the Society to sponsor such a program.

A question was raised as to whether those physicians in that area of Northern Virginia serviced by the District of Columbia Blue Cross-Blue Shield Program would be eligible to participate. A definite answer was not available although it was reported that an effort was being made to make such participation possible.

It was then moved by Dr. Stark that the proposed Blue Cross-Blue Shield plan be sponsored and that every effort be made to include physicians of Northern Virginia. The motion was seconded and adopted.

People to People

Dr. Grossmann stated that he had been approached by officials of the People to People Program concerning the possibility of heading a goodwill trip to certain European countries—including the Soviet Union, Poland, West Germany, etc. The People to People Program originated during the administration of President Eienshower and has proved quite successful. Dr. Grossmann indicated that rates are very reason-

able and that he was providing facts and figures as a matter of information only.

Virginia Association of Professions

Dr. Liddle reported that the Virginia Association of Professions had abandoned the idea of entertaining members of the General Assembly with a special dinner next year. Apparently several members of the Association had already made arrangements to entertain members of the General Assembly on their own. It could be, however, that the idea of a co-operative venture might be discussed again before the 1972 session of the General Assembly convenes.

Dr. Barker

Dr. Carmines announced that Dr. Barker had indicated he would not seek re-election as a Delegate to the American Medical Association. Dr. Barker has served The Medical Society of Virginia faithfully and effectively since 1958 and his decision was learned with deep regret.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED:
F. ASHTON CARMINES, M.D., *President*

Minutes of House of Delegates

FIRST SESSION

The House of Delegates of The Medical Society of Virginia met in the Ballroom of The Cavalier, Virginia Beach, on Thursday, October 16, 1969. The meeting was called to order at 2:00 P.M. by Dr. F. Ashton Carmines, President.

Following the invocation by The Reverend R. O. Bryant, Dr. Carmines introduced Dr. W. Callier Salley, Speaker of the House.

Dr. James P. Charlton, Chairman of the Credentials Committee, reported a quorum present.

The minutes of the October, 1968, sessions of the House were approved as published in the December, 1968, issue of the Virginia Medical Monthly.

Dr. Carmines then delivered his Presidential Address. The complete Address will be published in an early issue of the Virginia Medical Monthly, and all members are urged to read it carefully. His words provide inspiration for all physicians in these troubled and everchanging times.

Dr. Thomas S. Edwards, Vice-Speaker, then introduced Mrs. Robert D. Keeling, President of the Woman's Auxiliary to The Medical Society of Virginia. Mrs. Keeling reported projects of unusual interest—particularly those having to do with the young people of our State. The Auxiliary has been extremely active in the areas of drug abuse and mental health and its efforts have been widely acclaimed over the State. It is also vitally interested in promoting health careers and its contributions to AMA-ERF have reached a new high.

Also recognized was Mrs. Joseph Straughan, President-Elect of the Auxiliary.

Dr. Edwards next introduced Mr. Fritz A. Henn, President of the Mulholland Society of the University of Virginia School of Medicine. Mr. Henn stated that medical students today are vitally interested in the delivery of health care and what the future holds in this regard. His Society has been active in the area of drug abuse—particularly where the young people of our State are concerned.

The following delegates from allied organizations were then recognized: Sister John Anna, R.N., Norfolk, Virginia Nurses' Association; Mrs. Judy Torrence, Virginia Association of Medical Assistants; and Mr. W. Earl Willis, Virginia Beach, Virginia Hospital Association.

The House then heard Dr. Kinloch Nelson, Dean, School of Medicine, Medical College of Virginia. Dr. Nelson reported that every effort is being made to increase the number of medical school graduates and the Medical College of Virginia hopes to admit a first year class of 168 within the next few years. He also reported that only about 3 to 4% of those entering medical school fail to graduate.

Dr. Kenneth R. Crispell, Dean, University of Virginia School of Medicine, also addressed the House and reported that medical schools over the Nation were responding to our changing times and needs. The University of Virginia School of Medicine is also seeking to increase its enrollment and hopes to admit 130 first year students by 1974. Dr. Crispell went on to say that Family Practice is receiving special emphasis. He also pointed out that many demands being made upon medical schools today make additional funds an absolute necessity.

Dr. Salley then appointed Chairmen from the Congressional Districts for the purpose of meeting with their respective delegations and electing members to serve on the Nominating and Reference Committees. He advised the 6th District that it should be prepared to submit three nominations for appointment to the State Board of Medical Examiners and reminded the 1st, 3rd, 5th, 7th and 9th Districts that they should select nominees for Council.

Following an intermission, during which the various Districts met in caucus, the House turned its attention to the Rules of Procedure which govern the conduct of its business. No amendments were proposed and the Rules were adopted as presented.

Dr. Michael A. Puzak, Chairman of the Finance Committee, reported on the Society's financial status and presented a proposed budget for fiscal 1969-70. The budget was referred to an appropriate Reference Committee for consideration the following afternoon.

A Supplemental Report of Council covering certain key actions taken earlier in the day was then presented and referred to a Reference Committee.

Reports of the various Committees were received and Committee Chairmen provided an opportunity to submit supplemental reports should they wish. All reports were referred to Reference Committees.

The Speaker then called for the introduction of new business and a number of resolutions were offered.

Dr. Michael J. Moore, Roanoke, introduced a resolution having to do with insurance claim forms and the need of a continuing effort to make them more simple and effective.

Dr. James C. Respess, Charlottesville, introduced, on behalf of the Committee on Mental Health, a resolution endorsing certain proposed changes in Chapter 2, Title 37.1, of that portion of the Code of Virginia having to do with mental health.

Dr. Baxter H. Byerly, on behalf of the Danville-Pittsylvania County Academy of Medicine, offered a resolution endorsing the principle of freedom of choice in Medicaid billing.

Next to be introduced was a resolution from the Rockingham County Medical Society calling for additional funds for new medical schools and those now in existence. The resolution was presented by Dr. John T. Glick, Jr.

Dr. John A. Martin, Roanoke, introduced a resolution endorsing the action of the AMA House of Delegates with reference to billing for services performed by clinical laboratories.

A resolution reaffirming endorsement of the AMA policy on abortions was introduced by Dr. Robert S. Smith, representing the Fourth District.

A resolution by Dr. Robert L. A. Keeley calling for establishment of a standing committee on Comprehensive Health Planning could not be considered since it would require amendments to the Constitution and By-laws. Proposed amendments to the Constitution must be published prior to the Annual Meeting.

Dr. Alexander McCausland then obtained consent for immediate consideration of the following resolution which was adopted unanimously:

RESOLVED: That Dr. Joseph R. Blalock, Marion, Virginia, be nominated to receive the award of the President's Committee For The Physically Handicapped and the Governor's Award Committee as the doctor doing the most toward the employment of the physically handicapped in Virginia.

Dr. John A. Martin introduced a resolution which would authorize an Ad Hoc Committee on Comprehensive Health Planning until such time as definitive action could be taken on a recommendation to create a standing committee.

Dr. Thomas W. Murrell, Jr., presented a progress report on the proposed survey having to do with the delivery of health services in Virginia. The survey was authorized last October by the House of Delegates and would be particularly concerned with physician manpower. Dr. Murrell indicated that the survey will soon be undertaken in cooperation with the Virginia Comprehensive Health Planning Council and will be supervised by a special three-man committee. The committee will be made up of Dr. Murrell, Dr. James C. Respess and Dr. Lloyd T. Griffith.

The Speaker advised the House that Dr. Thomas S. Edwards would serve as Chairman of Reference Committee No. 1, Dr. Alexander McCausland as Chairman of Reference Committee No. 2, and Dr. William J. Hagood, Jr., as Chairman of Reference Committee No. 3.

The Committee on Nominations was announced as follows:

1st District: K. K. Wallace, Jr., M.D.
2nd District: Charles N. Van Horn, Jr., M.D.
3rd District: Kinloch Nelson, M.D.
4th District: Anthony J. Munoz, M.D.
5th District: William D. Lewis, M.D.
6th District: George S. Hurt, M.D.
7th District: James R. Holsinger, M.D.
8th District: James B. Hutt, Jr., M.D.
9th District: C. C. Hatfield, M.D.
10th District: C. Barrie Cook, M.D.

The Committee was requested to meet with the Speaker immediately following adjournment in order that a time and place for its meeting could be designated.

Dr. Salley announced that the Second Session of the House would be held in the Cavalier Room on Saturday, October 18, at 3:30 P.M.

There being no further business, the meeting was adjourned.

Second Session

The second session of the House of Delegates was called to order by Dr. W. Callier Salley, Speaker, at 3:30 P.M. on Saturday, October 18, 1969, at The Cavalier, Virginia Beach. Dr. James P. Charlton, Chairman of the Credentials Committee, reported a quorum.

The Chair recognized Dr. George S. Hurt, Chairman of the Committee on Nominations, who presented the Committee's report. The following nominees were elected:

President-Elect: Dr. James M. Moss
1st Vice-President: Dr. Dennis P. McCarty
2nd Vice-President: Dr. J. Andrews White
3rd Vice-President: Dr. Arthur A. Kirk
Speaker: Dr. Thomas S. Edwards
Vice-Speaker: Dr. W. J. Hagood, Jr.
Executive Secretary-Treasurer:
Robert I. Howard

The following nominees for Council were then elected:

1st District: Dr. Raymond S. Brown
3rd District: Dr. William R. Hill
5th District: Dr. F. H. McGovern
7th District: Dr. James C. Respess
9th District: Dr. Carl E. Stark

The following nominations for the State Board of Medical Examiners were received from the 6th District and will be submitted to the Governor for consideration:

Dr. George B. Craddock
Dr. L. R. O'Brian, Jr.
Dr. Frank N. Buck, Jr.

The House was advised that the terms of Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the American Medical Association, would expire on December 31. Dr. Barker announced that he would not stand for re-election.

Dr. Ball was then re-elected and Dr. Alexander McCausland chosen to succeed Dr. Barker.

Nominations were then received for Alternate Delegates to the American Medical Association and the names of Dr. Thomas L. Gorsuch, Dr. Russell Buxton and Dr. F. Ashton Carmines were presented. Dr. Buxton and Dr. Carmines were named in a closely contested election.

Dr. McCausland obtained permission to introduce a motion which would authorize appointment of a special committee to prepare a resolution honoring the retiring Speaker of the House. *The Rules were suspended and Dr. McCausland's motion adopted by a rising vote.*

Dr. Salley thanked the House for having permitted him to serve as its Speaker and expressed appreciation for the cooperation and consideration he had received over the years. He stated that although he was retiring as Speaker, he would continue to serve the House in every possible manner—particularly in his role as a Delegate to the American Medical Association.

Dr. Edwards was then requested to present the report of Reference Committee No. 1.

REFERENCE COMMITTEE No. 1

The House adopted the Committee's recommendation that the following Committee reports be approved: Editorial Board, Cancer, Heart-Cancer-Stroke, Maternal Health, Child Health, Liaison to State Bar, Conservation of Hearing and Medical Education (including Supplemental Report).

It was the Committee's recommendation that the proposed budget for fiscal 1969-70, in the amount of $170,385.00, be adopted. *The House concurred* and the budget follows in detail:

EXPENSES:

Salaries	$ 57,150.00
Telephone & Telegrams	1,700.00
Postage	2,100.00
Stationery and Supplies	2,200.00
Office Equipment—Repairs & Replacements	975.00
Building Maintenance & Repairs—net	9,000.00
Convention Expenses	1,000.00
Council and Committee Expense	3,000.00
Executive Assistant—Travel	475.00
Delegates to AMA	2,000.00
President's Expense	3,000.00
Travel Expenses—Executive Secretary	1,450.00
Virginia Medical Monthly	35,000.00
Legal Expense	11,750.00
Walter Reed Commission	500.00
Woman's Auxiliary	100.00
Membership Dues (Affiliated Organizations)	510.00
Editor—Virginia Medical Monthly	1,000.00
VaMPAC (Educational Fund)	12,000.00
News and Views	250.00
Retirement Fund	8,600.00
Payroll Taxes	2,000.00
Public Relations	3,000.00
Miscellaneous	475.00
Special Appropriations:	
Virginia Council	4,000.00

AMA-ERF	$ 1,000.00
Rural Health	500.00
Scholarship—MCV—(Administered by The Medical Society of Virginia)	2,000.00
Scholarship—UVA School of Medicine—(Administered by The Medical Society of Virginia)	2,000.00
Student AMA	500.00
National Society for Medical Research	150.00
Miscellaneous AMA	1,000.00
TOTAL BUDGET	$170,385.00

Next to be considered was a resolution on Medicaid billing sponsored by the Danville-Pittsylvania Academy of Medicine. The Committee was of the opinion that the resolution required additional study and should be referred to the Committee of Blue Shield Directors with the request that a report be prepared and submitted to the House at its next regular session.

The Committee's recommendation met with considerable opposition. There were those who viewed it as a gesture of defeat and stated that nothing could justify forcing a physician to be an unwilling participant in the computer process.

Supporters of the Committee's recommendation argued that the resolution, as originally presented, could seriously jeopardize the future of Medicaid in Virginia and deplored the suggestion that physicians should have a choice of billing methods.

Following termination of debate, the Committee's recommendation was rejected.

Dr. Byerly then moved that the original resolution be adopted. *The motion was seconded and carried* and the original resolution follows:

WHEREAS, the physician is the sole person authorized to practice medicine under the laws of the state in which he is licensed; and

WHEREAS, under the principles of medical ethics of the American Medical Association a physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause a deterioration of the quality of medical care; and

WHEREAS, under the Title XIX Medicaid—the physician is not given the choice of directly billing the patient or billing the fiscal intermediary as he is allowed under Medicare; and

WHEREAS, the present billing conditions are adding many hours and extra duties to the physician at times when physician services are in short supply and a crisis exists for medical services;

RESOLVED, that The Medical Society of Virginia endorses the principle of freedom of choice in billing by the physician; and, be it further

RESOLVED, that The Medical Society of Virginia request the State Department of Health and the Governor's Advisory Committee alter the Medicaid billing procedure so that the coding patterns be performed by the intermediary rather than the physician; and, be it further

RESOLVED, that this proposal be introduced to The Medical Society of Virginia in order that this freedom of choice of billing and alteration in billing-coding procedures be embodied in Title XIX of the Virginia State Medicaid provisions thus freeing physicians to devote more time to the practice of Medicine.

The report of Council was next considered and it was recommended that it be adopted as presented with two exceptions. The first—Section 4—recommended that Council continue to select such locations for the Annual Meeting as it believes advisable. *The recommendation was approved.*

In its consideration of Section 5 of the Report of Council, the Committee recommended that the action of the House of Delegates in October, 1967, with reference to assignments under Medicaid be rescinded. The House at that time directed ". . . that The Medical Society of Virginia will not accept a program for payment of physicians' fees for the recipients of the Title XIX Program that permits payment only by assignment."

In the second paragraph of its recommendation, the Committee explained that since Medicaid deals with the categorically needy and low income patient, and since these patients were not being billed previously, it could see no conflict for the following reasons: (1) Medicaid is based upon need; and (2) the patient actually has no claim to money paid for fees.

The thought was expressed that the Committee's recommendation on Section 5 might well contradict action by the House on the Danville-Pittsylvania resolution. It was then moved by Dr. Byerly that the second paragraph of the Committee's recommendation be deleted. Following a second, the motion was amended in such manner as to delete both paragraphs of the recommendation on Section 5 of Council's Report. *The motion was carried.*

The remainder of the Report of Council was adopted.

The Supplemental Report of Council was also

adopted on the Committee's recommendation. This report included the recommendation that dues for those active members licensed to practice more than five years be increased from $40.00 to $60.00 a year. The report also recommended a Blue Cross-Blue Shield Plan for members and an amendment to the Society's retirement program in order to permit participation by members of professional associations. Proposed legislation having to do with the Licensing of Hearing Aid Dealers and Fitters was also covered and carried the recommendation of the Committee.

A second resolution on Medicaid billing—this one originating with physicians of the Tenth District—was considered. The resolution called for use of a standard insurance form already approved by the Society and Health Insurance Council and requested that all coding be done by the insurance carrier. *The House adopted the Committee's recommendation that the resolution be tabled.*

The House then concurred with the Committee's recommendation that the following resolution be adopted:

WHEREAS, there has been a great increase in the population in Northern Virginia; and

WHEREAS, there has been a large increase in the number of deaths investigated by the Medical Examiner in the area; and

WHEREAS, the necessity for postmortem examinations increased annually; and

WHEREAS, the laboratory of the Chief Medical Examiner in Richmond cannot adequately service the Medical Examiners, pathologists, police, and other law enforcement agencies; therefore, be it

RESOLVED, that The Medical Society of Virginia urge that a subdivision of the Office of the Chief Medical Examiner be established in Northern Virginia having adequate pathological and toxicological facilities to serve the needs of the Commonwealth in this area.

The House also agreed with the Committee that the following resolution on insurance claim forms be adopted:

WHEREAS, we physicians have had time and money-consuming forms inflicted upon us by many inconsiderate companies selling health and accident insurance in Virginia; be it

RESOLVED, that where the physician chooses not to use the form supplied by a company, he is empowered to substitute the form developed for this purpose jointly by the AMA and the Health Insurance Council (Comb 67). Should any company fail to accept this form instead of their own, the physician will furnish no further information for the company, and will notify the executive offices of the medical society of the incident for future joint action. These same officials are instructed to notify all insurance vendors of this state that this will become official policy of members of The Medical Society of Virginia as of December 1, 1969; and, be it further

RESOLVED, that the Medical Service Committee of the Society be instructed to search yearly for a future approved Society form which will omit the irrelevant questions still existing in the Comb 67 Form, and to remind our members not to complete the patients' portion of insurance forms since we can thus encourage companies to develop simpler forms.

Next to be considered was a resolution which called for the Society to ". . . reaffirm its endorsement of the policy of the AMA House of Delegates in regard to abortions."

The Committee called attention to the fact that The Medical Society of Virginia adopted its own statement of policy on abortions in 1967. Consequently, it was the recommendation of the Committee that the resolution be amended in such manner as to have the Society reaffirm the statement of policy adopted in 1967. *The House concurred.*

The report as a whole of Reference Committee No. 1 was then adopted as amended.

Dr. Alexander McCausland was introduced and requested to present the report of Reference Committee No. 2.

REFERENCE COMMITTEE No. 2

The following Committee reports were adopted as recommended by the Reference Committee: Executive Secretary-Treasurer, Ethics, Health Careers, Advisory to Woman's Auxiliary, Air Pollution, Mental Health, AMA Delegates, Medicine and Religion, Insurance, Alcoholism and Pharmacy.

It was the Committee's recommendation that the report of the Judicial Committee be approved with the exception of the last paragraph. It was the opinion of the Committee that this paragraph, which recommends a thorough revision of the Constitution and By-laws, be deleted. A special committee studying the future mission of the Society is expected to have

a detailed report available some time during the coming year.

The House approved the Committee's recommendation which amended the Constitution and By-laws in such manner as to make the Committee on Pharmacy a standing committee, determine the number of Committee members and their terms and identify the Committee's areas of responsibility.

The first sentence of Article VIII of the Constitution now reads as follows:

> "The Standing Committees of the Society shall be (1) Scientific Exhibits and Clinics, (2) Legislation, (3) Medical Service, (4) Membership, (5) Ethics, (6) Judicial, (7) Public Relations, (8) Mediation, (9) Program, (10) Finance, (11) Blue Shield Directors, and (12) Pharmacy."

The first paragraph of Article IX of the By-laws has also been amended to read as follows:

> "The Standing Committees of the Society shall consist of an Editorial Board for the official publication of the Society, and additional Committees as follows:
>
> "(1) Scientific Exhibits and Clinics.
> (2) Legislation.
> (3) Medical Service.
> (4) Membership.
> (5) Ethics.
> (6) Judicial.
> (7) Public Relations.
> (8) Mediation.
> (9) Program.
> (10) Finance.
> (11) Blue Shield Directors.
> (12) Pharmacy."

The first sentence of the second paragraph of Article IX is amended to read:

> "Each of these committees with the exception of the Committees on Medical Service, Legislation, Public Relations, Mediation, Finance, Blue Shield Directors and Pharmacy shall consist of three (3) members, whose terms of office shall be three (3) years."

The third paragraph of Article IX is also amended by adding the following:

> "The Committee on Pharmacy shall consist of six (6) members. Following the 1969 annual meeting, the President shall appoint two (2) members to serve for a term of one (1) year, two (2) members to serve for terms of two (2) years and two (2) members to serve for terms of three (3) years. As these terms are completed the President will appoint new members to serve terms of three (3) years. The President shall appoint the Chairman of the Committee on Pharmacy."

Article IX is further amended by adding a Section 13 to read as follows:

> "The Committee on Pharmacy will have supervision over all matters pertaining to drugs and their relationship to the practice of medicine, pharmaceutic affairs and the drug industry."

It was the Committee's recommendation that the Supplemental Report of the Insurance Committee be tabled. This report would have established a program of retirement benefits for those members who are employed by nonprofit hospitals. *The Committee's recommendation was adopted.*

The House next turned its attention to a resolution which urged the American Red Cross Bloodmobile Program to institute a more reliable method of hemoglobin determination in the screening of prospective donors. It was the recommendation of the Reference Committee that the resolution not be adopted.

Following some discussion, Dr. Barney moved that the resolution be referred to an appropriate Committee for additional study and a report of its findings and recommendations. *The motion was seconded and adopted.*

As a result of its consideration of a resolution on blood alcohol levels, the Reference Committee recommended that the last "Resolved" be amended in such manner as to delete all reference to "impairment". *The Committee's recommendation was adopted* and the resolution, in its final form, follows:

> WHEREAS, national authorities place the percentage of fatal traffic crashes involving drinking drivers at a minimum of 50 percent; and
>
> WHEREAS, there is every indication that the same is true for Virginia; and
>
> WHEREAS, medical science is firmly united in saying that no person can safely operate a motor vehicle if he has as much as .05 percent of alcohol by weight in his blood; and
>
> WHEREAS, Virginia law sets the level at which a person is presumed to be too intoxicated to drive at .15 and the level at which he is presumed to be "impaired" at .10; and

WHEREAS, both percentages are far too favorable for drinking drivers; now, therefore, be it

RESOLVED, that The Medical Society of Virginia go firmly on record as petitioning the General Assembly of 1970 to enact legislation which will lower the .15 presumptive level to .10 for operating while intoxicated, and delete all reference to impairment.

Considered next was a resolution on alcohol breath tests sponsored by the Richmond Academy of Medicine. The Committee recommended that the last "Resolved" be amended in such manner as to endorse use of the breath test as a screening procedure to determine the need for a quantitative blood test for alcohol.

There was some objection to the test being used only as a screening device and a motion by Dr. Fletcher Wright to delete this stipulation was introduced. The motion was seconded but failed to carry.

The resolution, as adopted, follows:

WHEREAS, the drinking driver presents the most serious facet of our traffic problem; and

WHEREAS, it is estimated that he is responsible for at least 25,000 deaths annually; and

WHEREAS, many drivers in Virginia who are guilty are escaping just punishment because of the difficulties in administering the blood test and obtaining its results; and

WHEREAS, the easily administered breath test with its immediately available results is not permitted under Virginia law; and

WHEREAS, Virginia is the only one of the 43 states which have chemical test legislation which limits the test medium to blood; and

WHEREAS, medical science has pronounced the breath test to be fair and accurate; and

WHEREAS, a police officer with very little instruction can quickly and accurately administer the breath test; now, therefore, be it

RESOLVED, that The Medical Society of Virginia go firmly on record as petitioning the 1970 General Assembly to amend Virginia's chemical test law for drivers suspected of operating while intoxicated to permit administration of the breath test by qualified personnel on nationally approved devices, as a screening test to determine the need for a quantitative blood test for alcohol.

Considered next was a resolution having to do with physicians' fees when connected to services performed by clinical laboratories. The Committee recognized the great difference of opinion which existed and recommended that the "Resolved" portion of the resolution be amended to read as follows:

RESOLVED, that The Medical Society of Virginia endorse the action of the Judicial Council of the AMA and the House of Delegates of the AMA to the effect that where it is necessary for the attending physician to bill his patient for services performed by a clinical laboratory, the bill submitted by the attending physician to his patient should state the name of the clinical laboratory performing the services for his patient and state the exact amount of the laboratory charge paid or to be paid by the physician to the clinical laboratory, and to include charges for physician's services in connection therewith in his fee.

Dr. Linwood Ball discussed the action of AMA in this regard and moved that reference to the name of the clinical laboratory performing the services be deleted.

Dr. Titus then introduced the following substitute motion which was seconded and adopted:

RESOLVED, The Medical Society of Virginia condemns the practice of overcharging for automated and other laboratory procedures and requests the local medical societies to take appropriate disciplinary action whenever and wherever this practice comes to their attention.

The House, on the recommendation of the Committee, then authorized appointment of an Ad Hoc Committee on Comprehensive Health Planning until such time as definitive action can be taken on a recommendation to create a standing committee.

The report of Reference Committee No. 3 was then presented by its Chairman, Dr. W. J. Hagood, Jr.

REFERENCE COMMITTEE No. 3

The following Committee reports were adopted as recommended by the Reference Committee: Membership, Blue Shield Directors, Blue Shield Commission, Rehabilitation, Public Relations, Advisory to Virginia Hospital Association, Executive Committee, Medical Service, and Liaison to State Department of Health.

In its consideration of a resolution from the Rockingham County Medical Society having to do with funds for medical schools, the Committee rec-

ommended that the following substitute resolution be adopted. *The House concurred.*

WHEREAS, the doctor shortage in the United States, and in all countries of the world, has become extremely acute; and

WHEREAS, one-sixth of the United States doctors are foreign-trained, when the United States should be supplying medical care for under-developed areas of the world; and

WHEREAS, the Federal Government has placed expanding demands on the medical community to give more comprehensive medical care; therefore, be it

RESOLVED, that The Medical Society of Virginia use its influence in legislative circles at State and National levels and through the AMA to produce legislation that will provide MONIES for new medical schools and for those now in existence in order to supply our needs and the needs of our neighbors; and, be it further

RESOLVED, that copies of this resolution be presented to the Dean of the Medical College of Virginia, Dean of the Medical School of the University of Virginia, the Department of Health, Education and Welfare, the Virginia members of the House of Representatives of the United States Congress, the United States Senators from Virginia and the President of the United States; and, be it further

RESOLVED, that The Medical Society of Virginia Delegates to the AMA introduce a resolution embodying the intent of this resolution in the House of Delegates of the AMA at its next session in Denver, Colorado, on the 30th of November, 1969.

Acting in accordance with the Committee's recommendation, *the House adopted the following substitute resolution in place of that sponsored by the Lynchburg Academy of Medicine:*

WHEREAS, the fee paid the medical examiner under the Virginia Code Section 19.1-42 for each investigation and the making of the required reports was last increased from $10.00 to $15.00 in 1962; and

WHEREAS, the present medical fee is considered to be inadequate for the time expended and the services rendered, and thus this fee actually represents a financial loss to the respective medical examiners; therefore, be it

RESOLVED, that The Medical Society of Virginia deems it necessary and urges that the fee paid to the medical examiner for his investigation and reports for deaths within his jurisdiction be increased from $15.00 to $25.00; and, be it further

RESOLVED, that the Legislative Committee of The Medical Society of Virginia be instructed to implement this resolution.

Next to be considered was a resolution sponsored by the Arlington County Medical Society on the incorporation of solo practitioners of medicine. It was the recommendation of the Committee that the resolution be adopted.

The House concurred with the recommendation but amended the "Resolved" portion in such manner as to offer specific instructions to the Legislative Committee. The resolution follows in its final form:

WHEREAS, the State of Virginia now allows several practitioners of medicine to incorporate; and

WHEREAS, thirty-two (32) states in the Union now allow solo practitioners of medicine to incorporate; therefore, be it

RESOLVED, that the Legislative Committee of The Medical Society of Virginia be instructed to implement this resolution.

Considered next was a resolution presented by the Roanoke Academy of Medicine and having to do with the Educational Council of Foreign Medical Graduates. *The following substitute resolution was adopted as recommended by the Committee:*

WHEREAS, any United States citizen who is a student in a foreign medical school is prevented from applying or taking the ECFMG Examination until a year of internship (which is classified as national service) is done and finished; and

WHEREAS, their actual medical curriculum is completed one year prior to this; now, therefore, be it

RESOLVED, that United States citizens who are students in a foreign medical school be allowed by the Educational Council of the AMA to sit for ECFMG during or at the completion of their academic studies; and, be it further

RESOLVED, that this will allow them to apply for approved internships in the United States and will not interfere with their year of public service in the country which will eventually award their diploma; and, be it further

RESOLVED, that The Medical Society of Virginia

Delegates to the AMA introduce a resolution embodying the intent of this resolution at the next session of the House of Delegates of the AMA in Denver, Colorado, November 30, 1969.

Dr. Hagood reported that the Committee had given long and careful consideration to a resolution sponsored by the Society's Committee on Mental Health. The resolution called for certain changes in Chapter 2, Title 37.1 of the Code of Virginia.

The Committee carefully reviewed the proposed amendments and recommended that they be approved with two changes. That portion having to do with the summoning of witnesses and subsequent certification would be amended to read as follows:

"The Justice shall also summons other witnesses when so requested by the person or his attorney OR PHYSICIAN. The physician OR PHYSICIAN and clinical psychologist shall certify that they have examined the individual and have sufficient cause to believe that he is or is not mentally ill and requires or does not require hospitalization."

The House adopted the Committee's recommendations.

The basic resolution was then amended in such manner as to request implementation by the Society's Legislative Committee. *The resolution, as adopted, follows:*

WHEREAS, the last General Assembly passed a revised Mental Health Section of the Code of Virginia Title 37.1; and

WHEREAS, this section has frequently resulted in the exclusion of medical opinion in commitment proceedings; be it

RESOLVED, that The Medical Society of Virginia endorse the proposed changes in Chapter 2, Title 37.1 as contained in Appendix A; and, be it further

RESOLVED, that the Legislative Committee of The Medical Society of Virginia be requested to implement this resolution.

The report of Reference Committee No. 3 as a whole was then adopted as amended.

Dr. Hatfield requested the privilege of introducing a motion with the common consent of the House. *Permission was granted and the following resolution adopted:*

RESOLVED, that this body express to the Committee on Arrangements of the Virginia Beach Medical Society and the Program Committee of The Medical Society of Virginia its sincere appreciation for a very fine Annual Meeting; and, be it further

RESOLVED, that the management and staff of The Cavalier and the management and staff of the Alan B. Shepherd Civic Center be thanked for their roles in helping make this meeting a most memorable one.

Dr. William Grossmann was then installed as President by Dr. Carmines. As his first official act, Dr. Grossmann presented Dr. Carmines with a Certificate of Appreciation and the Presidential Gavel.

There being no further business, Dr. Salley declared the meeting adjourned.

APPROVED:

W. CALLIER SALLEY, M.D., *Speaker*

General Session

A general session of The Medical Society of Virginia was held at The Cavalier, Virginia Beach, on Saturday, October 18, 1969. The session was called to order by Dr. F. Ashton Carmines, President, at 6:10 P.M.

The amendments to the Constitution and By-laws which had been adopted by the House earlier in the day were then ratified. These amendments made the Committee on Pharmacy a standing committee, determined the number of Committee members and their terms, and identified the Committee's areas of responsibility.

There being no further business, the general session was declared adjourned.

APPROVED:

F. ASHTON CARMINES, M.D., *President*

ROBERT I. HOWARD, *Secretary*

Alcoholism

The Virginia Academy of General Practice, comprising the nucleus of family physicians in the State, has faced up to one of our greatest problems of today—alcoholism. Meeting in Williamsburg this spring, one day was devoted to a discussion of this mounting, and almost insurmountable, health problem. A summary of the presentation is worthy of consideration by all doctors of medicine.

Small wonder that the problem of alcoholism is so great. Couple the fact that most people have anxieties with the knowledge that alcohol can provide the quickest relief from this most prevailing symptom in the world. Add to this that the side effects are legion. The drug seems so good that most of us ignore its

side effects. Alcohol is man's psychological blessing but physiological curse. We seem, as a people, to accept the complications. We must, therefore, accept the challenge of alcoholism.

It is a symbol of affluence, of status; a symbol of our times, of our civilization. We are status seekers, so we yield readily to the social pressures for drinking. If we become addicted to this poison called alcohol, it is not to alcohol as much as to a subculture.

Alcohol is complicated. Drink it, it becomes more complicated. The central nervous system is a prime target organ. The alcoholic drinks to expand, to replace the drollness of his sobriety.

Alcoholism is enshrouded with emotionalism, ignorance and superstition. Some may regard it as an agent of freedom versus conflicts. Some feel pleasure and relaxation and want to titrate to preserve this feeling. Hence, there is further drinking to try to maintain this "rosy glow". With more drinking there is a weakening of defenses.

Drinking, then, can be an attempt to relieve a social problem, alcoholism, which is also a medical problem of first line importance. It is sociological and ecclesiastical in its scope. We cannot be judgmental. Treatment or non-treatment is no longer optional. It is a medical emergency.

We must, therefore, as a group, develop a multidisciplinary approach. Working hand in hand with Alcoholics Anonymous is also necessary. Physicians should familiarize themselves with these groups (AA) in every locality of any size which allow the problem drinker to identify either with the group or with some individual in the AA group.

The best way to try to understand the alcoholic or problem drinker is to attend AA meetings. (There are both "open" and "closed" meetings, but all are open to physicians). Get your feet wet.

Do we accept the challenge?

William S. Sloan, M.D., *Chairman*
James Asa Shield, M.D.
Ebbe C. Hoff, M.D.
William F. Gibbs, M.D.
Weir M. Tucker, M D.

50-Year Members—1969

Henry Walker Decker, M.D., Aylett
Frank Wilson Gearing, M.D., Woodstock
Alfred Brownley Hodges, M.D., Norfolk
Roy Michael Hoover, M.D., Tallahassee, Florida
Ira Huff Hurt, M.D., Roanoke
Hertha R. T. Riese, M.D., Glen Allen
George Winslow Simpson, M.D., East Chesapeake
James Banister Stone, M.D., Richmond
Neilson Hampden Turner, M.D., Richmond
Emanuel U. Wallerstein, M.D., Richmond
David Cole Wilson, M.D., Tuscaloosa, Alabama

Members Whose Deaths Have Been Reported Since 1968 Annual Meeting

Ralph Gregory Beachley, M.D.
Homer Orlando Bell, M.D.
Richard Phillips Bell, Jr., M.D.
Carl Ashton Broaddus, M.D.
Wilbert Enoch Butler, M.D.
James Lawson Cabaniss, M.D.
Glenn Calvin Campbell, M.D.
John Granville Crawford, M.D.
James Dean Creger, M.D.
William Dona Damron, M.D.
Donald Snead Daniel, M.D.
Charles Welby Dorsey, M.D.
Emanuel Greenspon, M.D.
William Walter Hargrave, M.D.
Philip Jacobson, M.D.
Augustine Warner Lewis, Jr., M.D.
William Lueders, Jr., M.D.
George Russell Maloney, M.D.
William Lloyd Mason, M.D.
Ulus Walter Massie, M.D.
Edward Berkley Neal, M.D.
George Washington Oast, M.D.
Sam Chapman Pascoe, M.D.
Joel Cutchins Rawls, M.D.
Edward Boisseau Robertson, M.D.
Colvin Wood Salley, M.D.
Aaron Seldes, M.D.
Philip Stephenson Smith, M.D.
Luther Campbell Spengler, Jr., M.D.
Frank Buchanan Stafford, M.D.
James Marion Suter, M.D.
Frank Ryder Trigg, M.D.
John Warwick Turman, M.D.
George Dennis Vaughan, M.D.
Henry Wilson Williams, M.D.
Fletcher Drummond Woodward, M.D.

Auditor's Report

OFFICERS AND COUNCILORS
THE MEDICAL SOCIETY OF VIRGINIA
4205 DOVER ROAD
RICHMOND, VIRGINIA

GENTLEMEN:

We have examined the financial statements of The Medical Society of Virginia, Richmond, Virginia, for the year ended September 30, 1969, as listed in the foregoing table of contents. With the exceptions noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

The accounts receivable and accounts payable were not verified by direct confirmation; however, the amounts are not material in relation to the financial position as a whole.

It is our opinion that the Balance Sheet presents fairly the financial position of the Society at September 30, 1969, in accordance with generally accepted principles of accounting. The Statement of Income and Expenses is prepared on the basis of cash receipts and disbursements.

Yours very truly,
MITCHELL, WIGGINS & COMPANY
By CHARLES W. ANDERSON
Certified Public Accountant

BALANCE SHEET
September 30, 1969

ASSETS

GENERAL FUND		
Cash in banks		$167,959.00
Accounts receivable:		
Dues from members—Estimated collectible value—1968 dues—50 @ $40.00	$2,000.00	
Advertising—Virginia Medical Monthly	1,465.82	3,465.82
		$171,424.82
BUILDING FUND		
Land and building—At cost		$111,073.67
Furniture and equipment:		
Estimated value —October 1, 1950	$5,353.11	
Cost of acquisitions after October 1, 1950	7,701.30	$ 13,054.41
		$124,128.08

LIABILITIES AND SURPLUS

GENERAL FUND		
Accounts payable:		
Preparation of Medical Journal—September, 1969		$ 3,326.85
Surplus:		
Available for appropriation:		
Balance—September 30, 1969		168,097.97
		$171,424.82
BUILDING FUND		
Surplus invested in tangible property		$124,128.08
		$124,128.08

STATEMENT OF SURPLUS
For the fiscal year ended September 30, 1969

GENERAL FUND		
Balance—October 1, 1968		$164,210.29
Add:		
Excess of income over expenses	$4,168.30	
Decrease in accounts payable	173.15	4,341.45
TOTAL		$168,551.74
Deduct:		
Decrease in accounts receivable		453.77
Balance—September 30, 1969		$168,097.97
BUILDING FUND		
Balance—October 1, 1968		$125,128.08
Deduct:		
Belroi property transferred to Association for the Preservation of Virginia Antiquities through Walter Reed Commission		1,000.00
Balance—September 30, 1969		$124,128.08

STATEMENT OF INCOME AND EXPENSES

For the fiscal year ended September 30, 1969

		Actual	*Budget*
INCOME			
Membership dues		$121,367.75	
Interest on investments		6,045.82	
History of Medicine in Virginia		63.10	
American Medical Association		1,397.26	
Virginia Medical Monthly:			
Advertising	$27,596.13		
Subscriptions—Nonmembers	812.90	28,409.03	
TOTAL		$157,282.96	
EXPENSES			
Salaries		$ 54,274.95	$ 54,400.00
Telephone and telegrams		1,697.15	1,750.00
Postage		2,075.00	2,000.00
Stationery and supplies		2,118.55	2,400.00
Office equipment—Repairs and replacements		852.94	900.00
Building maintenance and repairs—Net		9,394.20	8,745.00
Convention expense		(803.92)	1,000.00
Council and committee expense		2,047.63	2,800.00
Executive assistant—Travel		191.96	300.00
Delegates to American Medical Association		1,650.22	2,000.00
President's expense		35.26	3,000.00
Travel expense		1,352.37	1,300.00
Preparation and distribution of medical journal		37,018.81	35,000.00
Scientific exhibits			500.00
Legal expense		2,921.50	4,000.00
Walter Reed Commission		1,824.00	2,000.00
Woman's Auxiliary		104.42	600.00
Membership dues—Affiliated agencies		510.00	450.00
Editor—Virginia Medical Monthly		1,000.00	1,000.00
Special appropriations:			
Virginia Council and Medical Care		4,000.00	4,000.00
American Medical Education Foundation		1,000.00	1,000.00
Rural Health		500.00	500.00
Scholarship—Medical College of Virginia		2,000.00	2,000.00
Scholarship—University of Virginia		2,000.00	2,000.00
Student—American Medical Association		275.00	500.00
Other special appropriations		1,329.65	750.00
Virginia Medical Political Action Committee		12,000.00	12,000.00
News and views		221.69	200.00
Employees' retirement fund		6,232.66	7,750.00
Payroll taxes		1,944.40	2,000.00
Miscellaneous		440.57	550.00
Public relations		2,905.65	2,825.00
TOTAL		$153,114.66	$160,220.00
EXCESS OF INCOME OVER EXPENSES		$ 4,168.30	

FINANCIAL CONDITION

The financial condition of the Society at September 30, 1969, is shown in the balance sheet on the accrual basis of accounting. A comparative summary of the financial condition at September 30, 1969, and the two preceding years is presented as follows:

	September 30, 1969	1968	1967
Assets			
Cash	$167,959.00	$163,790.70	$151,549.83
Accounts receivable	3,465.82	3,919.59	4,520.52
Investments	—	—	16,204.00
Land, buildings and equipment	124,128.08	125,128.08	125,128.08
Totals—All Funds	$295,552.90	$292,838.37	$297,402.43
Liabilities, Surplus and Fund Balance			
Liabilities:			
Accounts payable	$ 3,326.85	$ 3,500.00	$ 3,589.85
Surplus:			
General fund	168,097.97	164,210.29	168,684.50
Fund balance:			
Building fund	124,128.08	125,128.00	125,128.08
Total—All Funds	$295,552.90	$292,838.37	$297,402.43

Cash—$167,959.00

Recorded cash receipts were accounted for by deposits in the banks and disbursements were supported by properly signed and endorsed cancelled checks. The balances on deposit at September 30, 1969, were verified by direct correspondence with the banks and examination of certificates and savings passbooks on hand as follows:

First and Merchants National Bank—Checking account	$ 50,978.61
Bank of Virginia—Savings account	11,943.19
Southern Bank and Trust Company—Savings account	1,660.12
Franklin Federal Savings and Loan Association—Savings account	17,084.67
Richmond Federal Savings and Loan Association—Savings account	24,689.91
First Federal Savings and Loan Association—Savings account	11,640.98
Security Federal Savings and Loan Association—Savings account	11,829.72
Williamsburg Savings and Loan Association—Saving account	10,999.48
Security Savings and Loan Association—Certificate of Deposit	17,132.32
First and Merchants National Bank—Certificate of Deposit	10,000.00
Total	$167,959.00

Building Fund Assets—$124,128.08

Details of the building fund assets are shown in a separate schedule. No indebtedness against these assets was disclosed by the books.

OPERATIONS

The results of operations for the fiscal year ended September 30, 1969, are shown in the statement of income and expenses prepared on the cash receipts and disbursements basis. A summary of income and expenses for the current year is compared with that of the two preceding years as follows:

	Fiscal Year Ended 1969	1968	1967
Income			
Membership dues	$121,367.75	$117,354.09	$116,409.61
Medical monthly publication	28,409.03	33,121.08	35,297.60

	Fiscal Year Ended		
	1969	1968	1967
Other operating income	$ 7,506.18	$ 10,335.52	$ 6,470.20
Totals	$157,282.96	$160,810.69	$158,177.41
Expenses	153,114.66	160,449.82	152,353.12
Income in Excess of Expenses	$ 4,168.30	$ 360.87	$ 5,824.29

BUILDING FUND ASSETS

September 30, 1969

Land and Buildings—At cost		
4205 Dover Road, Windsor Farms, Richmond, Virginia:		
Land		$ 22,706.58
Office building		86,161.68
Furnishings and decorations		2,205.41
Total Land and Buildings		$111,073.67
Office Furniture and Equipment		
Estimated insurable value at October 1, 1950	$ 5,353.11	
Purchased subsequent to October 1, 1950:		
Cost during fiscal year ended September 30, 1951	$ 951.65	
Cost during fiscal year ended September 30, 1959	6,749.65	7,701.30
Total Office Furniture and Equipment		$ 13,054.41
Total Building Fund Assets		$124,128.08

IN GENERAL

The bookkeeping records were found to have been kept in a satisfactory manner.

Insurance in force at September 30, 1969, determined from policies on file, is shown below:

Fire and Extended Coverage	
Building—Windsor Farms, Richmond, Virginia—80% Coinsurance	$ 77,000.00
Office furniture and fixtures—80% Coinsurance	$ 15,000.00
Liability—Owner's, Landlord's and Tenant's	
Bodily injury	$100,000.00-$300,000.00
Property damage	$ 25,000.00
Medical	$ 250.00-$ 10,000.00
Auto Liability—Nonownership	
Bodily injury	$100,000.00-$300,000.00
Property damage	$ 25,000.00
Employee Honesty Bonds	
Executive Secretary-Treasurer	$ 5,000.00
Secretary	$ 5,000.00
All Risk—Camera Floater	$ 200.00
Workmen's Compensation	Standard

Woman's Auxiliary....

Thoughtfulness and Cheery Good Will

. . . with plans implemented to perfection by the Woman's Auxiliary to Virginia Beach Medical Society made one and all comfortable and welcome. Our gratitude is expressed particularly to Mrs. K. K. Wallace, Jr., convention chairman, and Mrs. John Krueger, president of the Virginia Beach Auxiliary for their solicitude and fine planning. It was our pleasure to have as guests Mrs. Robert F. Beckley, treasurer of the Woman's Auxiliary to the American Medical Association; Mrs. Henry Zellman, immediate past president of the Woman's Auxiliary to the Massachusetts Medical Society; Mrs. Wallace Socowsky, President and Mrs. Raymond M. Yow, President-Elect of the Woman's Auxiliary to the Medical and Chirurgical Society of Maryland; Mrs. Wilson Smith, Eastern Regional AMAERF Chairman of the Woman's Auxiliary to the American Medical Association and Mrs. Bruce Martin, First Vice President of the Woman's Auxiliary to the West Virginia Medical Society.

Installation of Newly Elected Officers

. . . was performed by Mrs. Robert F. Beckley of Lock Haven, Pennsylvania, treasurer of the Woman's Auxiliary to the AMA with Mrs. Joseph M. Straughan of Wise accepting the gavel as President. The following will serve: President Elect—Mrs. Reuben Simms of Richmond; First Vice President—Mrs. Harold Williams of Newport News; Second Vice President—Mrs. Michael Puzak of Arlington; Third Vice President—Mrs. William J. Reardon of McLean; Recording Secretary—Mrs. Donald F. Fletcher of Atlantic; Corresponding Secretary — Mrs. William N. Gordge of Roanoke; Treasurer—Mrs. Daniel B. Hill of Lynchburg; Directors—Mrs. Robert D. Keeling of South Hill; Mrs. Daniel Anderson of Norfolk; Mrs. A. Broaddus Gravatt, Jr., of Kilmarnock.

Our new president accepted her pin, stepped to the podium and set the pace for the new year. "Thank you, members of the Woman's Auxiliary to The Medical Society of Virginia, friends from the medical society and guests.

"It gives me true pleasure to say thank you to the members of the Virginia Medical Auxiliary. My thanks must be at least two-fold. First for the year now ending which I have enjoyed as your President Elect and as Mrs. Keelings' traveling companion for auxiliary meetings. It has been interesting, busy and fun. Secondly for the opportunities open to me now as president. I hope to serve you well. A theme for the medical meetings this weekend seems to be that we can work for and make a *better world*.

"Your President Elect, Mrs. Reuben Simms, and I earlier this month attended the Fall Conference for President and Presidents-Elect in Chicago. We had a good time and we worked. We even started at 7:30 on Monday morning with talks during the continental breakfast. We were bombarded with ideas and information, which we hope to pass on to you.

"While in Chicago I heard a story about a first grade youngster who was asked to draw a picture showing his daddy's work. When the teacher saw his paper containing only circles drawn on it she asked, 'Does this tell me about your father?' 'Oh, yes,' the child replied, 'My daddy's a doctor and every morning he makes his rounds.' During my rounds in the past year I have been greatly impressed by you Virginia volunteers, working with your husbands for better health and also by members of medical auxiliaries from other states. Working to-

gether we women are a powerful force. When women see a need and decide that something should be done *good things usually happen.*

"There are many worthwhile ideas and projects prepared and suggested by the national auxiliary. There are many local situations that can be remedied or changed for the better by work on the part of the local medical auxiliary. This morning many of you saw the result of your work. Also this morning we heard the incoming President of The Medical Society of Virginia, Dr. William Grossmann, urge us to become familiar with AMPAC and VAMPAC because we both are engaged in worthwhile and essential activities for the sake of free enterprise in medicine. He asked us to educate ourselves and our husbands about the affairs of our day.

"In listening and reading during the past few weeks I've noticed that many auxiliaries are using key words that begin with the letter *C* and I commend them to you. Some of them are *Communicate, Confer, Create, Consider and Co-operate.* In using these as methods I suggest three *H* letter words as tools *Heart, Head* and *Hands.* So let us keep up the good work by a continued accent on youth for better family solidarity and thus contribute to *Better Health, a Better Virginia and a Better World.*"

Mrs. Straughan has demonstrated her interest in and love of her fellowman. The auxiliary is fortunate to have such strong capable leadership. With May at the helm the Auxiliary cannot help moving ahead to greater tasks and achievements.

Second Annual Awards

Mrs. Walter Fitzgerald, AMAERF chairman, presented the silver tray award to the Woman's Auxiliary to the Fairfax County Medical Society for the most ingenious projects and the greatest monetary increase over the last year. AMAERF certificates from the Woman's Auxiliary to the AMA were presented to the Fairfax Auxiliary for the afore-mentioned reasons. One certificate from the Woman's Auxiliary to the AMA was given to the Woman's Auxiliary to the Wise County Medical Society for the largest per capita donation this past year.

Mrs. L. C. Strong, Jr., awards chairman, presented the Community Service silver tray award to the Woman's Auxiliary to the Richmond Academy of Medicine for the most inclusive program with the greatest measurable benefit to the community. Mrs. Strong presented the Health Careers silver tray award to the Richmond Auxiliary for the best coverage of work stimulating interest in health careers.

The Margaret Howard silver bowl, awarded to the component auxiliary of over fifty members for the best observance of Doctor's Day, was presented by Mrs. Kalford Howard to the Woman's Auxiliary to the Richmond Academy of Medicine for the best overall observance. Mrs. Howard prefaced the presentation with an expression of gratitude which she had not been able to express last year in naming the award for her. The second silver bowl award designated for an auxiliary composed of less than fifty members was presented by Mrs. Strong to the Woman's Auxiliary to the Northampton-Accomack Medical Society. Mrs. Strong observed that although the carnation is the symbol of Doctor's Day a little bittersweet was intertwined in the bouquet since the Wise County Auxiliary of which she is a member was relinquishing the award to Northampton-Accomack.

Mrs. Elliott Oglesby, Jr., scrapbook awards chairman, presented a blue ribbon to the Woman's Auxiliary to the Fairfax County Medical Society for the best scrapbook entered by an auxiliary comprised of more than seventy-five members. The Woman's Auxiliary to the Portsmouth Academy of Medicine received the blue ribbon for the best scrapbook entered by an auxiliary of less than seventy-five members.

Another convention highlight was the playlet "His Fair Lady" by the members of

the Woman's Auxiliary to the Virginia Beach Medical Society and the Virginia Beach Little Theatre. The viewers were greatly amused and entertained by the presentation. Auxiliary members arranged a performance for the dinner-dance which was received with much enthusiasm. There has been a request for a command performance from the Woman's Auxiliary to the American Medical Association.

Mrs. Wallace Baker of Alexandria, legislation chairman, is making tentative plans for Wednesday, February 18, pending official notification for a "Day in the Legislature" to see Virginia's legal body at work and become better acquainted with state procedures.

The Eastern Regional Workshop

In Washington, D. C., October 23-24, was attended by Mrs. Reuben Simms, president elect; Mrs. Michael Puzak, health careers chairman; Mrs. William Reardon, AMAERF chairman; Mrs. M. Pinson Neal Jr., children and youth chairman; Mrs. Wallace Baker, legislation chairman; Mrs. Robert Nirschl, membership delegate and Mrs. Daniel Anderson, Woman's Auxiliary to the AMA eastern regional chairman of children and youth. Dr. Raymond T. Holden, from the board of trustees of the American Medical Association, was the keynote speaker. The topics covered this year covered AMAERF, children and youth, health careers, legislation, membership, presidents elect. Mrs. John M. Chenault, President of the Woman's Auxiliary to the American Medical Association, left this thought, "Have your tools ready—God will find you work."

Have You Checked Your Advertisers Recently?

If it were not for the advertisers the Virginia Medical Monthly would not be able to keep up its good standards and try to provide its readers with what they really want. Of course, we could publish a journal without advertising but it would have to be very small and some other means of financing would be necessary.

During the past couple of years, due to various government activities in the drug industry, our advertising has dropped off considerably. We can't say too much for the many advertisers who have continued to support the journal and they will always be "tops" in our estimate.

Have you looked at the advertising pages recently? This should be part of your continuing education—how else can you keep abreast of new drugs, equipment, hospitals, etc. And, of course, we think you should patronize those who support us!

Editorial . . . .

The Class of 1925

THE UNIVERSITY OF VIRGINIA Medical Class of 1925 has been an unusual one for a number of reasons. When 64 members matriculated in 1921 it was the largest class in the history of the Medical School. Many of the students were delayed in beginning their premedical training because of having served in World War I. The admission committees of that era were less selective and almost any student who had passed the prescribed subjects was admitted without further ado. This casual approach was later reflected in the number of classmates who fell by the wayside. Only 42 of the original 64 received their medical degrees four years later. Perhaps it was an example of that quaint and archaic term—survival of the fittest.

The class of 1925 also set an extra-curricular record of sorts, for seven members were on the football squad. Five of the players graduated with their class. Greasy Neal, who recently was elected to the Football Hall of Fame, was coach in the early twenties. His football squad contained so many of these medical students that he became an honorary member of the class. In recent years he has attended nearly all of the class reunions.

Several members have made worthwhile contributions in various fields of medical endeavor. A number reached professional status in various eastern medical schools. William H. Sebrell, Jr., of Portsmouth, is probably the outstanding authority on nutrition in this country. He is Professor and Director of the Institute of Nutritional Sciences in Columbia University. Richard Cannon Eley, of Suffolk, retired recently from a clinical professorship of pediatrics at Harvard and is now professor in the new medical school at Brown University. John Staige Davis, Jr., of Charlottesville, an internist of note in New York City, is equally at home in deep sea fishing and his exploits in pursuing the elusive swordfish are duly reported in national magazines. A. Stephens Graham, of Columbia and Richmond, has authored several surgical texts. A majority of the members served in World War II and many participated in both World Wars.

A more somber distinction of this group has been the high mortality it has sustained. More than half are no longer with us. One of the first medical naval officers to die in World War II was Henry Wilds Patton of Knoxville. The most recent loss was Vice Admiral Ocie B. Morrison, of Petersburg, who died in San Diego last September. He was Fifth Naval District Officer in Virginia during the mid-1950s and was largely respon-

sible for obtaining the new 17 million dollar main building in the Portsmouth Naval Hospital complex. When he retired in 1958 as Vice Admiral he was one of the select group of naval medical officers who reached this exalted rank which corresponds to that of Lieutenant General in the Army. He received the Legion of Merit with Gold Star and Combat "V", the Bronze Star with Gold Star, Oak Leaf Cluster and Combat "V" and Presidential and Navy unit commendation medals.

The class of 1925 and the classes that followed for a number of years were unusual in another respect. There was no G I Bill of Rights following World War I and few received scholarships. There were no Federal grants. They must have been underprivileged and just didn't realize it. Of necessity, medical students led a rather monastic life in those days and certainly one of frugality. In retrospect there was not an "activist" in the class of 1925. Perhaps they never were told there was an "Establishment". By today's standard they were probably just a bunch of squares. But if another crisis should arise, whether it be Great Depression II or World War III, for the welfare of America it is greatly to be hoped that the students of today would respond to the same degree as did those of a half century ago.

H. J. W.

News . . . .

Calendar of Events

Annual Medical Seminar—Sponsored by University of Virginia School of Medicine—The Homestead—Hot Springs—January 29-31, 1970.

Law Institute on Hospitals and Medicine—Medical College of Virginia—Richmond—February 6, 1970.

Clinical Microbiology Conference and Workshop—University of Virginia School of Medicine—Charlottesville—February 6, 1970.

Alton D. Brashear Postgraduate Course in "Head and Neck Anatomy"—Medical College of Virginia—Richmond—February 17-20, 1970.

Stoneburner Lecture Series—Medical College of Virginia—Richmond—February 19-20, 1970.

Student Cancer Day—University of Virginia School of Medicine—Charlottesville—March 6, 1970.

Annual Postgraduate Program—Sponsored by Medical Staff of Roanoke Memorial Hospital—Roanoke—March 19-20, 1970.

Spring Series of Thursday Afternoon Lectures—University of Virginia School of Medicine—Charlottesville—March 5-April 23, 1970.

Cardiac Symposium—Sponsored by Heart Association of Northern Virginia and Washington Heart Association—Marriott Twin Bridges Motor Hotel—Arlington—April 8, 1970.

Virginia Academy of General Practice—Annual Scientific Assembly—Hotel Roanoke—Roanoke—May 6-10, 1970.

International Cancer Conference—Sponsored by International Union Against Cancer—Houston, Texas—May 22-29, 1970.

Child Psychiatry Spring Forum—Medical College of Virginia—Richmond—May 29, 1970.

Seaboard Medical Association—Nags Head, North Carolina—June 18-21, 1970.

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The Medical Society of Virginia maintains a registry of medical meetings and programs of interest to Virginia physicians. You can help by keeping us advised of any meetings scheduled in your area. This will not only help others avoid conflicts but also provide helpful information on opportunities for continuing education.

New Members.

The following doctors were received into membership in The Medical Society of Virginia during the month of October:

William Stewart Allerton, M.D., Falls Church
Glen Morris Bond, M.D., Gretna
Lester R. Bond, M.D., Gretna
Harold Chapman Bonner, M.D., Occoquan
Bruce L. Canaga, Jr., M.D., Portsmouth

Frank Denaro, M.D., Portsmouth
William Clinton Everett, M.D., Suffolk
Frederick W. Gray, M.D., Hampton
John Roger Hogg, M.D., Newport News
Edward Roberts Lang, M.D., Falls Church
Joseph Edward Maddox, M.D., Winchester
Michael Joseph Olichney, M.D., Fredericksburg
Antonio Perez, M.D., Radford
Amir Rafii, M.D., Richmond
Teh-chang Shih, M.D., Alexandria
Waller Littlepage Taylor, Jr., M.D., Virginia Beach

And the Weather Was Perfect—

And what more do you need at Virginia Beach! The Annual Meeting of The Medical Society of Virginia had weather made to order and this contributed very much to the success of the meeting, October 16-19. There were 506 physicians and 11 guests registered—though we suspect many more did not get to the registration desk. There were 147 exhibitors and we imagine in the neighborhood of 200 auxiliary members—they did not give us a report.

Dr. William Grossmann, Petersburg, succeeded Dr. F. Ashton Carmines, Newport News, to the presidency. Dr. James M. Moss, Alexandria, was elected president-elect; Drs. Dennis P. McCarty, Front Royal; J. Andrews White, Virginia Beach; and Arthur A. Kirk, Portsmouth, vice-presidents; and Robert I. Howard, Richmond, re-elected executive secretary-treasurer. Dr. Thomas S. Edwards, Charlottesville, is speaker of the House, and Dr. William J. Hagood, Jr., Clover, vice-speaker.

The minutes of the Council and House of Delegates are published in this issue of the Monthly.

Golf Tournament.

The following were winners in the Golf Tournaments at the annual meeting at Virginia Beach:

Winners of the Women's Golf Tournament:

Low Gross: Mrs. W. J. Stanford, Galax

Low Net Winners:

Mrs. Joseph Shuman, Arlington
Mrs. Charles Earley, Virginia Beach

Low Net Runner-up:

Mrs. Alan Mackintosh, Vienna

Winners of Men's Golf Tournament:

Low Gross: 3-way tie:

Dr. A. B. Gravatt, Jr., Kilmarnock
Dr. William I. Neikirk, Charlottesville
Dr. W. J. Stanford, Galax

Low Net: 4-way tie:

Dr. Frank G. Griffin, Virginia Beach
Dr. Warren Gregory, Winchester
Dr. Joseph E. Shuman, Arlington
Dr. A. Epes Harris, Jr., Blackstone

Winners—Tennis Tournament:

Men's Singles: Dr. Robert P. Nirschl, Arlington
Women's Singles: Mrs. Evelyn Weaver
Men's Doubles: Drs. D. B. Walthall, Dublin, and Weaver
Mixed Doubles: Dr. and Mrs. Robert P. Nirschl, Arlington

The Northern Neck Medical Association

Held its fall meeting at the Indian Creek Yacht and Country Club, Kilmarnock, on October 23. Speakers were Dr. David R. Hawkins, Chairman of the Department of Psychiatry of the University of Virginia Medical Center, his subject being Sexual Counseling in the Adult; and Dr. George Bright, Director of Adolescent Medicine of the Medical College of Virginia, on Sexual Counseling in the Adolescent.

Dr. Melvin B. Lamberth, Jr., of Kilmarnock, was installed as president; Dr. Robert Beatley, Reedville, was named president-elect; Dr. Harvey W. Goode, Jr., Kilmarnock, vice-president; and Dr. Norman R. Tingle, Sr., Lively, re-elected secretary-treasurer.

Pediatric Society Meeting.

The annual meeting of the Virginia Chapter, American Academy of Pediatrics, and the Virginia Pediatric Society will be held at the Williamsburg Lodge, February 27-28, 1970. Guest speakers will be Drs. Harris D. Riley, Edwin I. Smith, and W. M. Thompson, from the University of Oklahoma, and Dr. George Harkins, Norfolk.

Further information may be obtained from the executive secretary, R. A. Versprille, P. O. Box 1062, Norfolk 23501.

Richmond Surgical and Gynecological Society.

Dr. Armistead M. Williams has been elected president of this Society. Dr. Martin Markowitz is vice-president, and Dr. Joseph W. Coxe, III, secretary-treasurer.

Dr. E. Cato Drash,

Charlottesville, has been named honorary Christmas Seal campaign chairman for Virginia by the Virginia Tuberculosis and Respiratory Disease Association.

Dr. Drash is a past president of the Association.

Dr. Lloyd J. Burk, Jr.,

Arlington, is the new president of the Virginia Division of the American Cancer Society.

Dr. J. Shelton Horsley, III, Charlottesville, was named medical vice-president.

Dr. A. W. Pleasants,

Lexington, has been elected president of the Shenandoah Valley Chapter of the Virginia Academy of General Practice.

Dr. Levi W. Hulley, Jr.,

Richmond, has been named medical director for Blue Cross and Blue Shield of Virginia. He will be responsible for medical advice and guidance for the associations' management and will work closely with various medical organizations including The Medical Society of Virginia, as well as other provider organizations.

For Sale.

One Picker 300 MA-125 KVP Generator, 1/30 timer Centurian 11 Radiographic-Fluoroscopic table with 8 x 10 - 10 x 12 spot film device rotating anode tubes floor to ceiling tube stand. Price $2,000.00.

One Picker 200 MA-100 KVJ Generator, 1/20 second timer Centurian 11 Radiographic-Fluoroscopic 8 x 10 - 10 x 12 spot film device rotating anode tubes floor mounted tube stand. Price $1,000.00.

Contact Sigmund Newman, M.D., 1220 East West Highway, Apt. 522, Silver Spring, Maryland 20910. (*Adv.*)

Wanted.

Full time staff physician for Student Health Service at Virginia Polytechnic Institute, Blacksburg. For further information, write or call Emory R. Irvin, M.D., Blacksburg 24060. Phone 552-6444. (*Adv.*)

Wanted.

One or two general practitioners, service obligation fulfilled, to join established GP group. Local Hospital. Population 20,000. 23 miles from Richmond, Virginia. Drs. Moore and Miller, 815 West Poythress Street, Hopewell, Virginia 23860. Telephone 458-8557. (*Adv.*)

Wanted.

Internist, board qualified or certified. Join board certified internist, East Tennessee town of approximately 50,000. Guaranteed salary and increasing percentage to full partnership. Accrediated schools, local colleges and near university. Write #170, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituary . . . .

Dr. Massie.

Ulus Walter Massie was born August 20, 1896, in Spanishburg, West Virginia. After attending public schools in the area, he graduated from Concord College, Athens, West Virginia, and from the Medical College of Virginia, Class of 1930.

He interned at Sheltering Arms Hospital in Richmond and Lewis-Gale Hospital in Roanoke. He was in general practice a short time at Fincastle, then took employment with the Koppers Coal Company, most of which time he did general practice at Weeksbury, Kentucky.

He then took a residency at the Brooklyn Eye, Ear, Nose and Throat Hospital, after which he spent the rest of his life practicing his speciality in Roanoke.

Dr. Massie served with the United States Navy in World War I. He was a faithful member of the South Roanoke Methodist Church, where he taught Sunday School for many years. He was an avid fisherman and gardener. He always showed a deep interest and concern for his patients, and in return his patients were devoted to him. He was scrupulously honest without sham or pretense. Although ordinarily quiet and reserved, he never feared to state his moral and political convictions.

Dr. Massie died unexpectedly in his sleep June 26, 1969.

He is survived by his widow, one son, and a daughter.

Be it resolved that the Roanoke Academy of Medicine expresses its deepest sympathy to the family and friends of our beloved colleague, that the family be sent a copy of this resolution, and that a copy of this resolution be forwarded to The Medical Society of Virginia.

Charles A. Young, Jr., M.D.
Alfred L. Wolfe, M.D.

Dr. Cabaniss.

Dr. J. Lawson Cabaniss died September 5, 1969, after fighting a heroic battle with a long illness. His character, a desire to serve his fellow man, and a desire to leave the world a better place were exemplified by his conduct during his last illness.

He was born in Brookneal and was sixty-five. He was educated on the farm and the public schools of his community before entering Ferrum Junior College. He received his Medical Degree at the University of Virginia in 1932. He trained for his specialty of Eye, Ear, Nose and Throat at the Gill Memorial Eye, Ear, Nose and Throat Hospital in Roanoke. He later studied his specialty in New York and in Philadelphia. He was a busy Eye, Ear, Nose and Throat specialist in Roanoke from 1936 until his death except for three years spent as a Commander in the U.S. Navy, Pacific theater, during World War II.

Lawson was a dedicated and successful physician, who had a burning desire to help his patients. He was continually studying to improve his professional skills. His student career started the hard way, and he was truly a self-made man. Ferrum College encouraged him by giving him work, so he could attend school there, and in later years, he gratefully repaid his debt with generous gifts to his Alma Mater. For example, he was founder of the B. M. Beckham scholarship fund. At the University of Virginia, barbering was one source of income. He took pride in being a skillful barber, just like he took pride in being an exceptionally skillful surgeon.

Dr. Cabaniss was a great believer in the old fashioned doctor-patient relationship and had many grateful and devoted patients who will miss him. He fought socialized medicine with a passion and was informed on all phases of socialistic encroachments. He fought for our dignity while president of the Roanoke Academy of Medicine in 1962.

Lawson's interests did not stop with his professional and intellectual pursuits. He was physically active and excelled on the golf course. He enjoyed discussing gardening and was an expert gardener.

We mourn the passing of our friend and colleague. As a servant of mankind, he will be widely missed by his many devoted patients. We extend to his family, and especially his wife, Mary, our heartfelt sympathy.

We move that these remembrances of his life be included in the minutes of the Roanoke Academy of Medicine, and a copy be sent to the Virginia Medical Monthly, and a copy to his wife.

Frank A. Strickler, M.D.
Alexander McCausland, M.D.
Fred M. Jacobs, M.D.

Dr. Vaughan.

The City of Richmond was saddened to learn of the sudden death of George Dennis Vaughan on September seventeenth, while performing surgery in a local hospital. Insofar as is known, he had never been seriously ill until the actual moment of his demise.

Dr. Vaughan was born in Richmond, raised in Huntington, West Virginia, attended Virginia Polytechnic Institute and Marshall College, and received his M.D. degree from the Medical College of Virginia in 1939. During World War II, he served his country as Lieutenant Commander on a Naval hospital ship. He later had post-graduate training at Temple University, specialized in Colo-Proctology, and joined the faculty of Medical College of Virginia

in 1949 with the title of Assistant Professor of Clinical Surgery in Proctology.

George Vaughan was an esteemed member of the Richmond Academy of Medicine, The Medical Society of Virginia, Pennsylvania Society of Colon and Rectal Surgeons, Southern Medical Association, American Medical Association, and Richmond Surgical and Gynecological Society. He was a Fellow of the American Proctologic Society, the American College of Surgeons, and a Diplomate of the American Board of Colon and Rectal Surgery. He was president of the Piedmont Proctologic Society at the time of his death, and a past president of the Suburban Sertoma Club. He was a member of the First Presbyterian Church, the Country Club of Virginia, the Commonwealth Club, the Navy League, and was on the Board of Directors of the Windmill Point Yacht Club.

George was an ardent sportsman, golfer and yachtsman, a warm friend, and interesting conversationalist, a skilled surgeon, and a man of lofty ideals and character. He died, as he no doubt would have wished, while rendering a valuable service to a patient. With him we have shared joys and sorrows, triumphs and disappointment, and have benefited from his opinions, experience, and wise counsel in seeking solutions for our own problems. That we shall sorely grieve for him is most true and natural. Yet, from birth we are taught to accept the certainty of individual death, and in a large sense our entire lives are but preparation for this—the greatest and most mystifying of all earthly experiences. It is also quite natural that we view the unknown, and its inescapable finality, with reluctant awe and dread. Still we are convinced that death comes as a release of the spirit into a nearer, and more radiant eternal relationship with God. We are persuaded that God loves us most when we truly love one another, and we are comforted by the knowledge that George lived a life of great usefulness and service to his fellowman, relieving suffering and rendering easier the paths of others.

Now be it resolved, that in the untimely demise of George Dennis Vaughan, the Richmond Academy of Medicine and the City of Richmond has sustained a great loss, and that a copy of this resolution be spread upon the minutes of the Academy, and that a copy be sent to his family with our sympathy.

Robert V. Terrell, M.D., *Chairman*
J. Warrick Thomas, M.D.
James C. Gregory, M.D.

Dr. Love.

In the death of Dr. James W. Love, we have lost a kindly man and a dear friend. The Alexandria Medical Society desires to express its appreciation of these qualities and enter upon the minutes this testimony to the memory of one we are diminished to lose.

With his magnetic personality, his rare gift of humorous expression and his wisdom acquired through wide experience, he was a dominant figure among his colleagues.

Dr. Love was unusually well endowed to become such a figure. Untiring energy applied to the enlargement of this endowment made of him a man of insight, force, fine tact, and a lover of culture and the beautiful. He was kindly and his friends and patients found it easy to become his disciples.

Dr. Love became a member of the Alexandria Medical Society in 1932. In this capacity he devoted much thought to the work of the Medical Society and served on prominent committees until the time of his death on March 7, 1969.

Richard E. Palmer, M.D.
Carson Lee Fifer, M.D.

Mr. Barnes.

It is with deep sorrow that the Arlington County Medical Society records the death of our friend and faithful Executive Secretary, Harry Garth Barnes, who passed away unexpectedly on August 25, 1969.

Mr. Barnes was born in Hornell, New York, in 1913 and received his education at the Horseheads High School and the Buffalo Technical Institute. He served two years in the National Guard.

He rendered loyal service to the Federal Aviation Administration for twenty-eight years and at the time of his death was Assistant Operations Officer for the FAA in the Washington Air Route Traffic Control Center in Leesburg, Virginia.

He was a very active member of the Holy Trinity Lutheran Church in Leesburg, Virginia, where he made his home with his wife and their three children.

As Executive Secretary of the Arlington County Medical Society from 1953 to the time of his death he served devotedly and efficiently.

Whereas, Harry Garth Barnes, gave uncommon dedication to his position with the Arlington County Medical Society and extended sincere kindliness and friendship to its members and

Whereas, his activities and his relationship with his family, his community, his church and his wide circle of friends were marked by a spirit of conscientious and unselfish dedication.

Therefore, be it resolved that by this memorial statement the members of the Medical Community of Arlington County extend to his beloved widow, children and family our sincerest sympathy.

Therefore, be it further resolved that a copy of this resolution be spread upon the minutes of the Arlington County Medical Society, a copy be presented to his family and a copy be forwarded to the Medical Bulletin of Northern Virginia and the Virginia Medical Monthly for publication.

Michael A. Puzak, M.D.

Inner Sites...

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Contraindicated in sulfonamide-sensitive patients, pregnant females at term, premature infants, newborn infants during the first three months of life, glomerular nephritis, severe hepatitis, uremia and pyelonephritis of pregnancy with gastrointestinal disturbances.

Warnings: Use only after critical appraisal in patients with liver damage, renal damage, urinary obstruction or blood dyscrasias. If toxic or hypersensitivity reactions or blood dyscrasias occur, discontinue therapy. In closely intermittent or prolonged therapy, blood counts and liver and kidney function tests should be performed.

Precautions: Observe usual sulfonamide therapy precautions including maintenance of an adequate fluid intake. Use with caution in patients with histories of allergies and/or asthma. Patients with impaired renal function should be followed closely since renal impairment may cause excessive drug accumulation. Occasional failures may occur due to resistant microorganisms. Not effective in virus and rickettsial infections.

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ROCHE

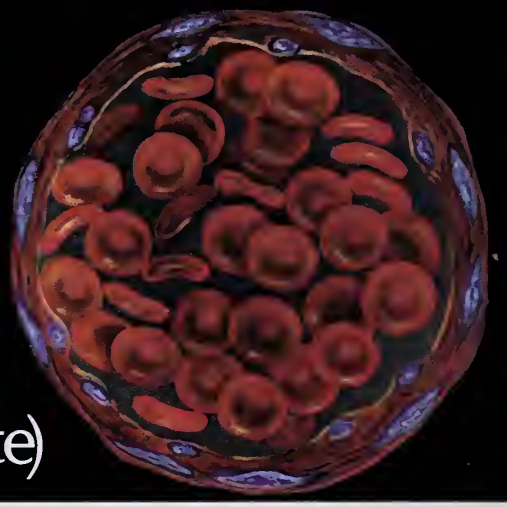
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Roniacol® Timespan®
(nicotinyl alcohol tartrate)



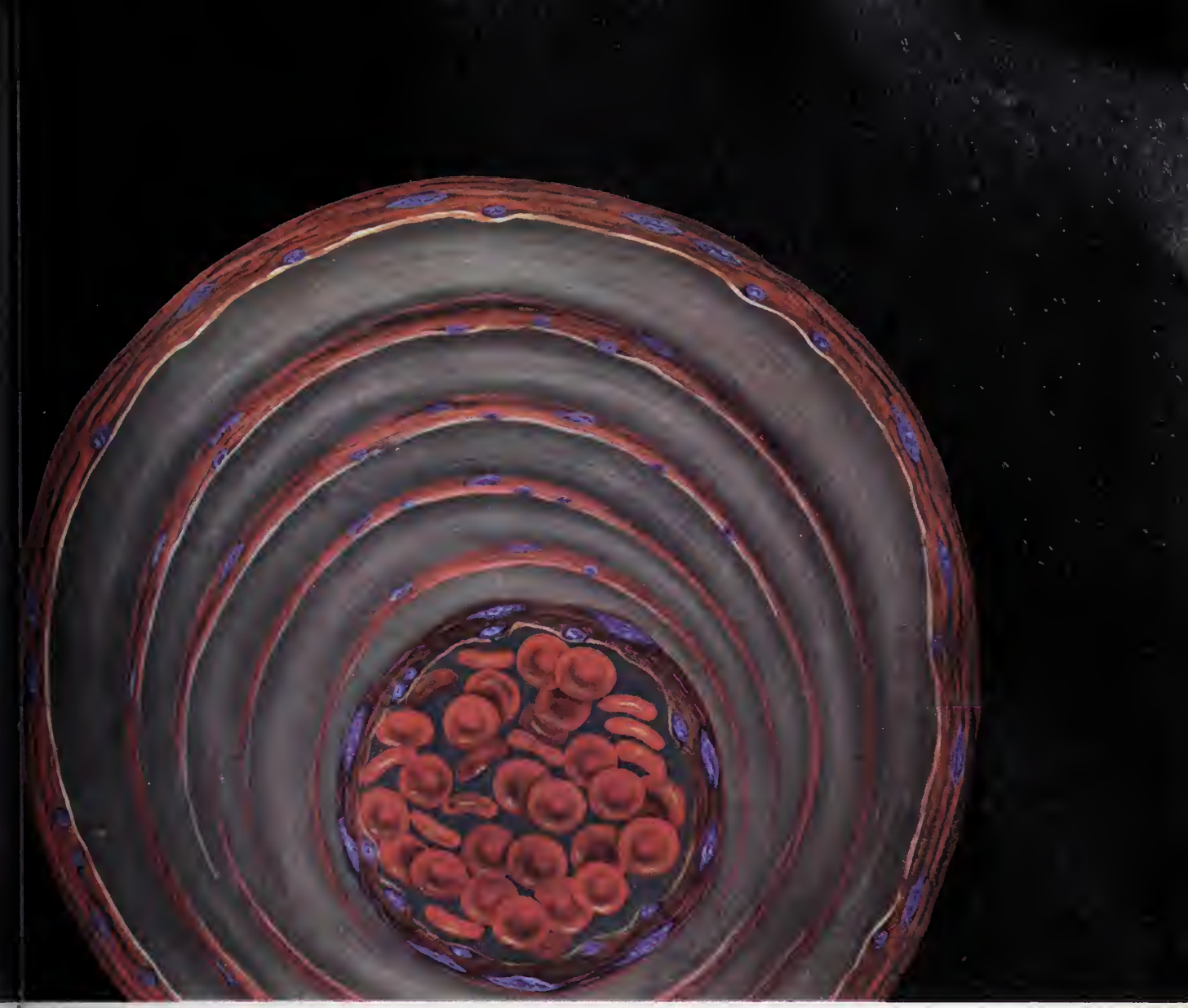
Because peripheral vasodilation is needed now... and must often be continued

Roniacol Timespan (nicotinyl alcohol tartrate) can make a significant contribution to effective treatment of peripheral vascular disorders. It is directed specifically toward improvement of peripheral blood flow, relief of ischemic symptoms, and the long-term management of these conditions.

Specific pharmacologic action—Roniacol (nicotinyl alcohol) acts selectively by relaxing smooth muscle of peripheral blood vessels. Onset of action is smooth and gradual, rarely causing severe flushing.

Relative freedom from side effects—Side effects that may occur occasionally with Roniacol seldom require discontinuation of therapy.

Prolonged, continuous drug release—Prolonged peripheral vasodilation is provided by sustained-release Roniacol Timespan (nicotinyl alcohol tartrate) Tablets. Part of the drug becomes available immediately, the remainder continuously over a period of up to 12 hours, and dilation of constricted peripheral vessels usually maintained. Thus, with a single dose of medication, patients can enjoy the benefits of increased peripheral blood flow in ischemic extremities for up to 12 hours.



Smooth peripheral vasodilation from initial dosage...extended with simple, well-tolerated, b.i.d. dosage

The prolonged action of Roniacol Timespan (nicotinyl alcohol tartrate) together with its other benefits offer a therapeutically practical measure in the long-term management of peripheral vascular disease–advantages especially important for older patients.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Conditions associated with deficient circulation; e.g., peripheral vascular disease, vascular spasm, varicose ulcers, decubital ulcers, chilblains, Meniere's syndrome and vertigo.

Caution: Roche Laboratories endorses caution in the administration of any therapeutic agent to pregnant patients.

Side Effects: Transient flushing, gastric disturbances, minor skin rashes and allergies may occur in some patients, seldom requiring discontinuation of the drug.

Dosage: 1 or 2 Timespan Tablets—150 mg nicotinyl alcohol in the form of the tartrate salt—bottles of 50 and 500.

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Nutley, New Jersey 07110

Art is a conception of peripheral vasodilation.

A once-popular treatment for back pains was to have the seventh son of a seventh son stand or walk on the patient's back.





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VIRGINIA MEDICAL MONTHLY

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ADVERSE REACTIONS: Side reactions may affect the nervous, gastrointestinal, and cardiovascular systems. Drowsiness, dizziness, dryness of the mouth, nausea, nervousness, palpitation, and blurring of vision have been reported. Allergic reactions may occur.

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Contraindications: Hypersensitivity to tetracyclines.
Warning: In renal impairment, since liver toxicity is possible, lower doses are indicated; during prolonged therapy consider serum level determinations. Photodynamic reaction to sunlight may occur in hypersensitive persons. Photosensitive individuals should avoid exposure; discontinue treatment if skin discomfort occurs.
Precautions: Nonsusceptible organisms may overgrow; treat superinfection appropriately. Tetracycline may form a stable calcium complex in bone-forming tissue and may cause dental staining during tooth development (last half of pregnancy, neonatal period, infancy, early childhood).

Side Effects: Gastrointestinal—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. *Skin*—maculopapular and erythematous rashes; exfoliative dermatitis; photosensitivity; onycholysis, nail discoloration. *Kidney*—dose-related rise in BUN. *Hypersensitivity reactions*—urticaria, angioneurotic edema, anaphylaxis. *Intracranial*—bulging fontanels in young infants. *Teeth*—yellow-brown staining; enamel hypoplasia. *Blood*—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. *Liver*—cholestasis at high dosage.

Upon adverse reaction, stop medication and treat appropriately.



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Contraindications: Severe central nervous system depression, comatose states from any cause, hypertensive or hypotensive heart disease of extreme degree.

Warnings: Administer cautiously to patients who have previously exhibited a hypersensitivity reaction (e.g., blood dyscrasias, jaundice) to phenothiazines. Phenothiazines are capable of potentiating central nervous system depressants (e.g., anesthetics, opiates, alcohol, etc.) as well as atropine and phosphorus insecticides. During pregnancy, administer only when necessary.

Precautions: There have been infrequent reports of leukopenia and/or agranulocytosis and convulsive seizures. In epileptic patients, anticonvulsant medication should also be maintained. Pigmentary retinopathy may be avoided by remaining within the recommended limits of dosage. Administer cautiously to patients participating in activities requiring complete mental alertness (e.g., driving). Orthostatic hypotension is more common in females than in males. Do not use epinephrine in treating drug-induced hypotension. Daily doses in excess of 300 mg. should be used only in severe neuropsychiatric conditions.

Adverse Reactions: *Central Nervous System*—Drowsiness, especially with large doses, early in treatment; infrequently, pseudoparkinsonism and other extrapyramidal symptoms; nocturnal confusion, hyperactivity, lethargy, psychotic reactions, restlessness, and headache. *Autonomic Nervous System*—Dryness of mouth, blurred vision, constipation, nausea, vomiting, diarrhea, nasal stuffiness, and pallor. *Endocrine System*—Galactorrhea, breast engorgement, amenorrhea, inhibition of ejaculation, and peripheral edema. *Skin*—Dermatitis and skin eruptions of the urticarial type, photosensitivity. *Cardiovascular System*—Changes in the terminal portion of the electrocardiogram have been observed in some patients receiving the phenothiazine tranquilizers, including Mellaril (thioridazine). While there is no evidence at present that these changes are in any way precursors of any significant disturbance of cardiac rhythm, several sudden and unexpected deaths apparently due to cardiac arrest have occurred in patients previously showing electrocardiographic changes. The use of periodic electrocardiograms has been proposed but would appear to be of questionable value as a predictive device. *Other*—A single case described as parotid swelling.

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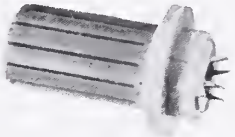
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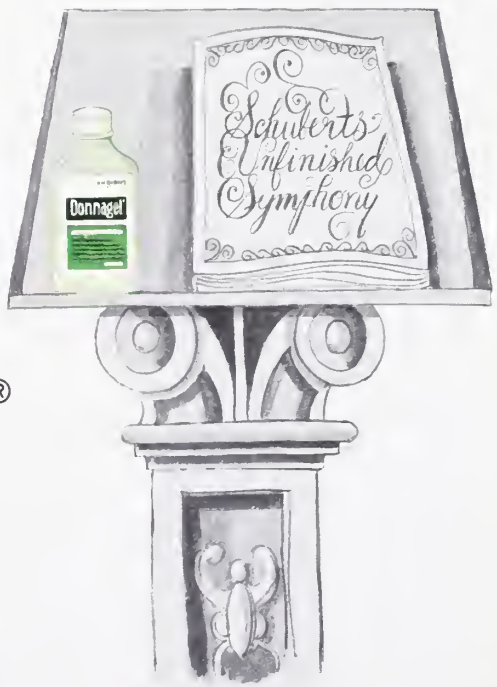
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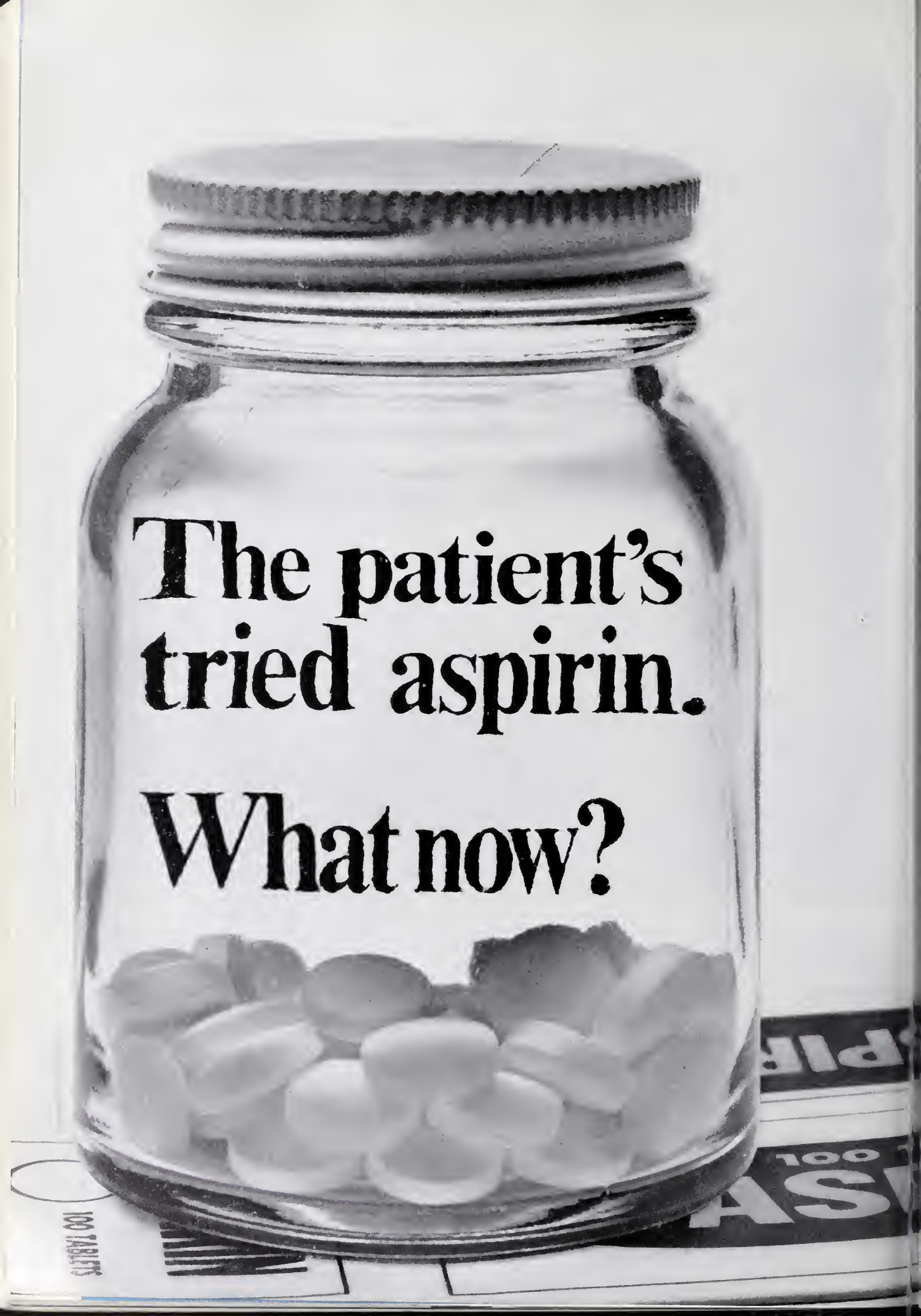
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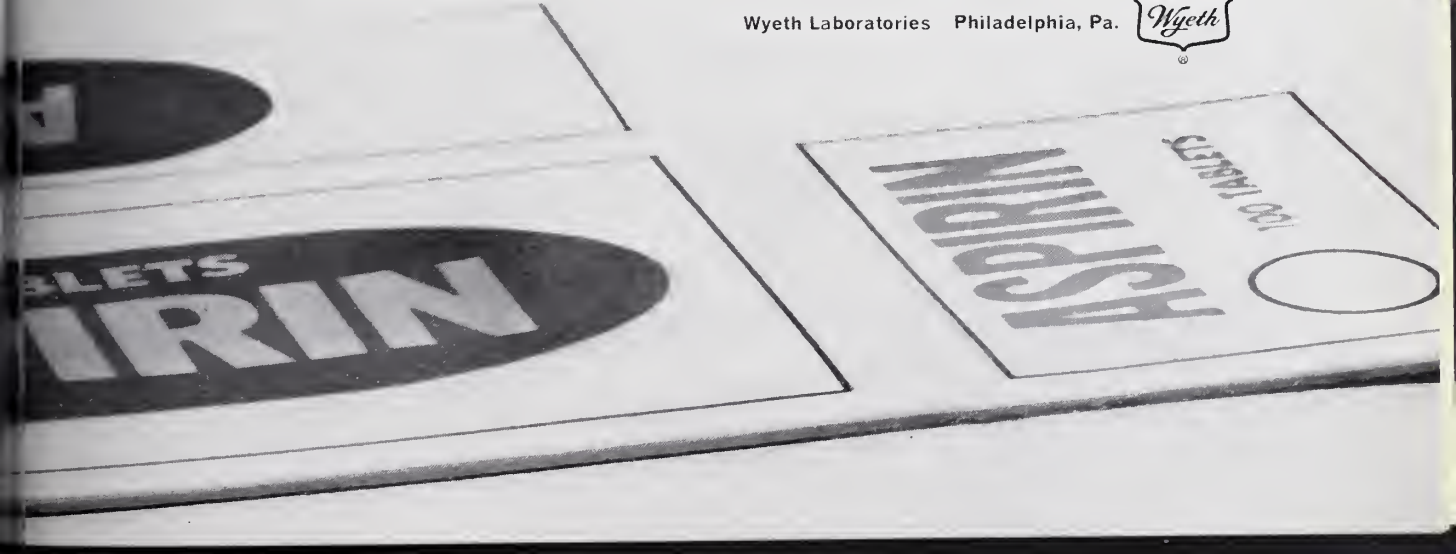
Precautions: Keep out of reach of children. Not recommended for patients 12 years old or less. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate in susceptible persons—as alcoholics, ex-addicts, severe psychoneurotics—has resulted in dependence or habituation. Withdraw gradually after prolonged excessive dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance, with resultant slowed reactions and impaired judgment and coordination. If drowsiness, ataxia or visual disturbances (impairment of accommodation and visual acuity) occur, reduce dose. If symptoms persist, patients should not operate machinery or drive. After meprobamate overdose, prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels, and hyperventilation are reported. Give cautiously and in small amounts to patients with suicidal tendencies. Treat attempted suicide (has resulted in coma, shock, vasomotor and respiratory collapse and anuria) with gastric lavage and appropriate symptomatic therapy (CNS stimulants and pressor amines as indicated). Two instances of accidental or intentional significant overdosage with ethoheptazine and aspirin have been reported. These were accompanied by CNS depression (drowsiness and lightheadedness) but resulted in uneventful recovery. On basis of pharmacologic data, CNS stimulation could be anticipated, with nausea, vomiting and salicylate intoxication (requires induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, and observation for hypoprothrombinemic hemorrhage [usually requires whole blood transfusions]).

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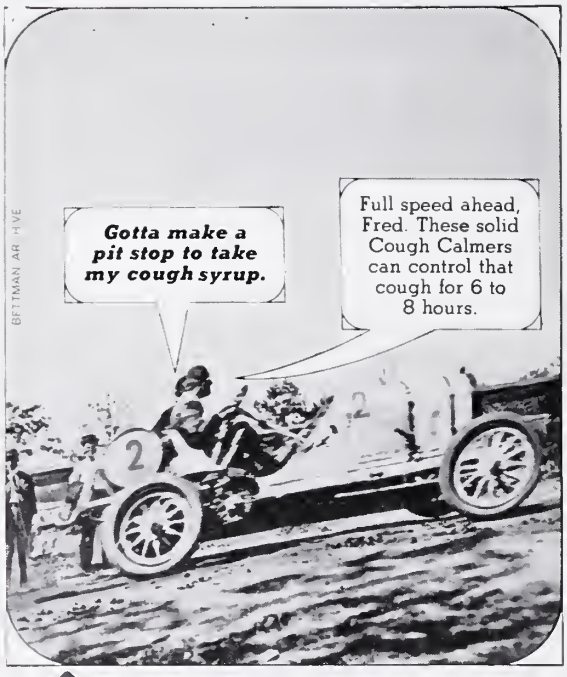
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"All Interns are Alike"

It stands to reason. They all go through the same training; they all have to pass the same tests; they all have to measure up to the same standards; they all are underpaid, too. Therefore, all interns are alike.

That's utter nonsense, of course. But it's no more nonsensical than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

Bayer's standards are far more demanding. In fact, there are at least *nine specific differences* involving purity, potency and speed of tablet disintegration. These Bayer® standards result in significant product benefits including gentleness to the stomach, and product stability that enables Bayer tablets to *stay* strong and gentle until they are taken.

So next time you hear someone say that all aspirin tablets are alike, you can say, with confidence, that it just isn't so.

You might also say that all interns aren't alike, either.



Mild ulcerative colitis may be triggered here...



In mild ulcerative colitis, a number of factors can precipitate an attack: for instance, dietary indiscretion, such as eating raw foods, or emotional overreaction, such as that aroused by financial difficulties. No matter what causes the patient's sensitive colon to "act up," he soon suffers from acute discomfort...and often, from anxiety and apprehension as well. Such patients frequently respond well to adjunctive dual-action Librax® therapy.

Librax combines, in a single convenient capsule, the well-known antianxiety effect of Librium® (chlordiazepoxide HCl) and the dependable anticholinergic /antispasmodic effect of Quarzan® (clidinium Br). Therefore, as Librax helps to relieve the patient's excessive anxiety and reduce his overreaction to stress, it also, at the same time, helps to control hypersecretion and hypermotility, thus relieving spasm and abdominal discomfort.

With Librax, the dosage schedule is simple: 1 or 2 capsules, t.i.d. or q.i.d., will in most cases bring the patient significant relief of both the emotional and physical elements that contribute to his psychovisceral disorder.

Before prescribing, please consult complete product information, a summary of which follows.

INDICATIONS: Indicated as adjunctive therapy to control emotional and somatic factors in gastrointestinal disorders.

CONTRAINDICATIONS: Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

WARNINGS: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

PRECAUTIONS: In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and toler-

or here.



ated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

ADVERSE REACTIONS: No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver-function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diet.

two good reasons for prescribing LIBRAX®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



No place for beginners

Terramycin®
(oxytetracycline)

An infection of rapid onset requiring prompt attention. Teenage girl with chills, fever, abdominal pain, backache and nausea. Frequent and urgent urination with burning. On examination—tenderness over kidney. Blood count and urinalysis confirm the diagnosis: acute pyelonephritis. Treatment is initiated with Terramycin. Within a few days of follow-up therapy, the patient is markedly improved. The pretreatment urine culture shows a strain of *E. coli* highly susceptible to Terramycin.

Experience has shown that Terramycin offers special advantages in treating urinary tract infections when strains of causative bacteria are susceptible. Broad-spectrum coverage unaffected by penicillinase. Effective tissue levels to help reach foci of infection in renal parenchyma. High urine levels—excreted by kidney in *active* form.

With Terramycin, you have the assurance that comes with choosing an agent physicians have depended on for over 18 years. In difficult as well as routine cases, when tests reveal susceptible organisms, consider Terramycin. One of the world's most widely used broad-spectrums.

Contraindicated: In individuals hypersensitive to oxytetracycline.

Warnings: Reduce usual oral dosage and consider antibiotic serum level determinations in patients with impaired renal function.

Use of oxytetracycline during the last trimester of pregnancy, neonatal period and early childhood may cause discoloration of developing teeth. This effect occurs mostly during long-term use of the drug, but it has also been observed in usual short-treatment courses.

During treatment with tetracyclines, individuals susceptible to photodynamic reactions should avoid direct sunlight; if such reactions occur, discontinue therapy.

Note: With oxytetracycline, phototoxicity is unknown and photoallergy very rare.

Precautions: Use of broad-spectrum antibiotics occasionally may result in overgrowth of nonsusceptible organisms. Where such infections occur, discontinue oxytetracycline and institute specific therapy. Increased intracranial pressure in infants is a possibility. Symptoms disappear upon discontinuation of therapy.

Adverse Reactions: Nausea, diarrhea, glossitis, stomatitis, proctitis, vaginitis and dermatitis, as well as reactions of an allergic nature, may occur but are rare.

Supply:* Terramycin Capsules: oxytetracycline HCl, 250 mg. and 125 mg. Terramycin Syrup: calcium oxytetracycline, 125 mg. per 5 cc. Terramycin Pediatric Drops: calcium oxytetracycline, 100 mg. per cc.

*All potencies listed are in terms of the standard, oxytetracycline.

More detailed professional information available on request.



Terramycin®
(oxytetracycline)

Pfizer LABORATORIES DIVISION
New York, N.Y. 10017



When disease is ruled out and psychic tension is implicated

Valium® (diazepam) helps relax the patient and relieve his somatic symptoms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms have occurred following abrupt discontinuance. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation, have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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